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THE NEEDS OF AN ELEMENTARY COURSE IN ECONOMICS

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The elementary course in economics has recently received a most severe indictment at the hands of the home economists. For years, according to the discussion reported by Dr. Hazel Kyrk[1] in this magazine, they have considered it "a sheer waste of time" for the students, "an empty gesture so far as the effect on their thinking and information was concerned."

To one who has pondered the problem of an adequate statement of general economics for two decades, this critical protest is neither strange nor disturbing. On the contrary it is an encouraging sign which bodes well for the early reformulation of the general course in economics and of our mode of presenting the subject to the general reader. The dissatisfaction of home economists with the current presentation of the subject is quite understandable.

One needs only to examine the scope of the science as set forth by most of our American treatises to see why the course seems lacking in stimulus and in information for the home economics student. Take the following statements by two of our most liberal economists: "Economics is the science which deals with wealth in its most general aspect; namely, its value aspect." (Alvin S. Johnson). "Economics is the science that treats phenomena from the standpoint of price; therefore, mostly, industry and business." (Herbert G. Davenport).

It is clear that any science that limits itself to a discussion of phenomena from the standpoint of "price—therefore, mostly, business and industry" must necessarily leave untouched the major part of the economic problems of the homemakers of the country. These twenty-odd millions of workers do not receive their economic income as a price, for the most part. Some of them work for wages and are therefore directly interested in the price which labor commands; some of them own property and are interested in

[1] The Elementary Course in Economics, by Hazel Kyrk. JOURNAL OF HOME ECONOMICS, Volume 20, May 1928, pages 333 to 335.

rent, the price paid for the use of land and buildings, or in interest, the price paid for the use of capital. But the great majority of homemakers do not sell their services or the services of the things which they own upon the marketplace. They perform their economic functions without a price payment. In short they are a part of one of our economic institutions which has not yet been commercialized. Any description of our industrial process from the standpoint of value and price will have little or nothing to say about the problems of these economic producers.

So widespread and universal is this limitation of economics to the concerns of commerce that women who have no other occupation than homemaking are not even listed by the census as gainfully occupied. Fortune tellers, hypnotists and spiritualists are so listed, as are theatre ushers, bootblacks and bartenders. Ladies' maid, valets, umbrella menders and scissors grinders all find a niche assigned to them in the classifications. But homemakers are excluded from consideration.

A few illustrations will give point to this divergence of interest and emphasis which arises out of the varying degrees of preoccupation with the commercial aspect of industry. The growing industrialization of the world has brought a marked increase in the corporate form of business organization and control. This has given rise to a host of financial and economic problems which are generally discussed in economic treatises at some length. The relation of the laborer to his employer is one of the most important of these. Another is the accumulation of capital through the retention in the business of corporate profits which belong to the stockholder and which might be paid to him as dividends.

Now the homemaker is interested in these problems as a citizen and perhaps as the wife or mother of an employee of a corporation. But she is probably much more interested in the fact that the growth of industrialism with its increased efficiency, higher wages, and new occupations for women has greatly diminished the supply of domestic servants and greatly altered the employer-employee relationship in the home. It is a fair question whether this industrialization of life has not made many of our old domestic virtues obsolete. For those were aristocratic virtues in large measure, and the maintenance of those standards was only possible in a society where service was abundant, cheap, and well trained. To-day it is none of these. Yet we have built millions of homes according to plans which assume a continuance of the traditional standards.

In the matter of saving and capital accumulation the homemaker will be impressed by the astronomical figures of corporate savings, but she is much more interested in a technique of budgeting which will enable the

family income to resist the blandishments of our multifarious products of industrialism. She too has her problem of capital accumulation, of saving a part of the family income in order that that income may be made to extend beyond the productive years of the members of the family who earn it.

The number of homemakers exceeds the number of employees of corporations by a wide margin, yet no general work on economics makes more than a passing reference to these problems. Economics is occupied first with commerce and with the central problems of commerce which are markets and prices. It is occupied also with production—with the creation of goods and of those services which commonly command a price upon the marketplace. It adds these goods and services together in terms of prices and calls the result the national income. And there it leaves the problem for the most part. What becomes of that income—how it is translated into actual standards of living for the twenty-odd million families, what disposition is made for savings and under what motives—of all this the ordinary treatise on economics says little. It leaves the activities which result in final consumption unanalyzed and unilluminated.

What's to be done about this situation in our major social science? The suggestion is put forth by Dr. Kyrk that lists be made of the economic facts, institutions, and problems of interest to home economics students, which would give "some concrete idea of what the home economists would like the elementary course to accomplish."

Now this suggestion of Dr. Kyrk's is a necessary step on the road to a reformation of the general course. For it will bring to the attention of the general economists large areas of the field of industrial activity which they now treat as though they were non-existent. That must be done before any progress can be made. Furthermore, the home economists must analyze those economic processes which are carried on in these neglected areas and describe them for the general economist. For the economists specializing in this field are the only professional group close enough to the situation and sufficiently skilled in its technical problems to make an adequate and scientific analysis.

But indispensable as these labors and findings of the specialists in the economics of the home undoubtedly are, one wonders whether they warrant the optimistic conclusion that "with lists of this sort before us we would be in a position to organize the course in elementary economics satisfactorily."

Home economics is not the only field which finds the introductory

course in economics inadequate and unsatisfactory. The plaint of this group sounds strangely familiar to those of us who were listening to the criticisms of the school of commerce men fifteen years ago. The strictures then passed upon the course were just as unqualified and biting as are those of the home economists to-day. And they were just as true.

Economics then left untouched a great number of problems which had arisen out of our new industrial revolution. Questions which daily confronted, not only the business man but the public administrator as well, were wholly ignored. And the situation has not been remedied as yet. The first step has been taken. The schools of commerce and the research economists have added greatly to our knowledge of specific phases of the economic process. But no one has as yet fused this new knowledge into a comprehensive work on general economics. Some new subjects have been added to the table of contents, but they fit loosely into the general structure and the resultant whole lacks organic unity. The various topics give the impression of belonging together merely by virtue of the fact that they are bound between the same covers.

It is quite possible that the home economists are doomed to the same disappointment, no matter how well they perform their task of illuminating the dark places which they have chosen to explore. They may, in fact, by adding to the store of special material make the task of the general economist still more difficult.

What general economics needs in addition to analysis of economic processes and institutions is a new point of approach for the organization and interpretation of this wealth of new material. Such a new mode of attack must present all the results which the specialists have attained in such manner that they bear upon some central universal problem and illuminate it on every side. Is it possible to find a problem which will focus all phases of economic activity?

The concept of the national income, its size, composition, and variation, its distribution, and its final disposition or use, would seem to furnish the most promising point of departure. If the student came out of the general course with a pretty clear notion of the meaning and size of the national income, if he further had an idea of the relative size of this income now as compared with various times in the past and with various other countries, if he had a mental picture of the things that go to make it up, and if he knew the range of its fluctuations due to business depressions or to climatic conditions, it would certainly put him in possession of information which would enable him to throw much of our complex economic process into perspective.

Such a course would give the student, next, the best possible account of the distribution of the national income. Who gets these goods and services? He would find that in the first instance the title to much of our newly created wealth went to corporations and not to individuals at all. That some people received their share in return for labor or other services rendered, some in payment for use of property, others as profits of productive enterprise or of speculation. And he would find that over twenty million women of mature years receive their income in a most indirect and uncertain fashion. He would surely bring out of the course a definite idea of the inequalities of distribution.

And finally such a course would give the student a picture of the uses to which this national income is put. How much is spent to maintain customary standards of living and how much is saved? What part do the various governments take by taxation or borrowing and thus spend under public direction? What part of the income which is saved is loaned abroad and how much is invested at home? Is it invested in housing, in productive plants, or in public buildings, roads, streets, and other facilities? What part of the money raised in taxes is spent upon war and preparations for war, on education, on public health?

It would seem that a course which would thus acquaint the students with the stream of national income during the first few weeks of study would hardly be regarded as "an empty gesture so far as the effect upon their thinking and information was concerned."

After this preliminary survey of national income the remainder of the course would be devoted to a study of the manner in which the various institutions that make up our industrial society function either in the creation, the stabilization, the distribution, or the disposition of this income. Capitalism, labor unions, banking and credit, the tariff, international trade, taxation, accounting, the corporation, insurance, the stock market, all these would be considered with the question in mind, how does this institution affect the national income?

In any such putting of the scope of general economics the problems which interest the home economists would find a natural place. In the consideration of the composition of the national income the contribution of the homemaker would have a prominent part. The study of distribution would surely lead to a critical scrutiny of our present methods for determining the share of women in the national income. It would be apparent that the disposition of the national income is largely in the hands of the homemakers and that the effectiveness and intelligence of the use to which it is put depends upon them.

Furthermore, such a presentation of the subject would bring the problem of economic control to the fore very early in the course. The principal reason for the study of economics today is the desire to exercise control over the economic process and, if possible, order it in such manner that we may more nearly realize an ideal society. The course would be dominated by the idea of process rather than of structure. The concept of income has for its distinguishing mark the idea of flow. It is to economic thinking to-day what wealth was to Adam Smith's day. An attempt to analyze economic life from that point of view might well lead to a reformulation of economic theory which would make the discovery of this field of knowledge an epoch in the intellectual life of the student.

HOME ECONOMICS AND GOOD GROUP RELATIONS IN THE HOME

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There is a growing appreciation of the general social value of right group relations in the home and an increasing acknowlegment that effecient homemaking affects not alone the nutrition of the family, its economic status, and the education of the children, but also the social and psychological relations between all the members of the family. The effect of home economics on these relations is a matter in which every homemaker and every teacher is interested.

Home economics is a comparatively new subject Naturally, the more obvious aspects were developed first and the problems relating to the provision of food, clothing, and equipment and the handling of finances received consideration earlier than the less easily discernible problems of management and the social development of the family and its members. It is evident that unless all this information is applied so as to develop homes of satisfactory spirit, it will fail in its greatest purpose. A child may be well cared for materially, yet fail to become the right sort of social being because the human relationships within the home are not right. The whole question of homemaking in practice as well as in teaching must be looked at from the standpoint of its ultimate effect on good group relations.

By good group relations we mean satisfactory relationships among the

individuals and between them and the group as a whole. Such relations depend first, on the individual characteristics of family members, and second, on group characteristics. As far as individual characteristics are concerned, it does not take much thought to recognize that such qualities as courtesy, cooperation, cheerfulness, reasonableness, and patience are essential to good family relations.

What all of the group characteristics are which contribute to good relationships would be difficult to determine, but at least four seem of fundamental significance in family life—understanding, openmindedness, imagination, and companionableness.

Understanding is an important group characteristic because it helps the members of the family to interpret their experiences both inside and outside of the home. The small boy who rushes in from the street all upset at something his playmates have done to him must meet with understanding from the people at home if he is to be led to see why it all happened and what should be done about it. A lack of such understanding may block the child's impulse to straighten matters out and thus prevent the building up of a method of future procedure. Understanding is frequently important to adults as well as to children. Sympathetic discussion of the separate events of their day is often a genuine help to both the man who has been away at work and the woman who has been busy in the home. It brings to each the opportunity for free expression of the difficulties encountered and each may get practical help from the other's interpretation and counsel. For this important element of right family life, understanding is an essential characteristic.

Openmindedness is a characteristic without which it is impossible to direct others wisely. Its value is often most clearly shown by its absence. The reprimanded child who feels himself speaking into prejudiced ears crawls into his shell with a sense of injustice which broadens the chasm between him and those who would not listen to his endeavor to explain. Many of our modern stories of unhappy marriage have their beginning in the unwillingness on the part of the supposedly injured party to listen to an explanation which is proffered. Willingness to listen to explanations from both sides without prejudice often opens the opportunity to guide conduct and furnishes the information needed to do so wisely.

Imagination is a group characteristic far-reaching in its effect on right family life. One of its results is stimulation to accomplishment. Thus, the family which can see for the child with mechanical leanings, the possibility of a career in engineering will stimulate him to develop and

train this interest. Another result of imagination is inspiration. The person who inspires others to further and better effort is the one who can, through imagination, see in the present capacities of an individual, potential abilities perhaps not yet considered. This faculty for stimulation is a powerful one in family life, for on it frequently rests the future success of members. A third and by no means unimportant result of imagination as a characteristic of the family group is sympathy. It need not be argued that sympathy grows out of the ability to put one's self in another person's place and that this does not come without imagination. For happy family relations there must be sympathy; therefore there must be imagination.

Companionableness, the fourth of the fundamental group characteristics mentioned, is by no means less important than the others. It includes the qualities and attitudes which make members of a group enjoy one another's society and seek companionship within the group. This companionship in turn results in loyalty. Workers with juvenile delinquency report that rarely does this condition develop out of an early life of home companionship. If the family members can carry a sense of loyalty to the family group, this results directly in unconscious obedience to the standards set up in that family. Companionship also results in happiness, and the positive effects of a happy home life in childhood and youth on successful adults is rarely challenged. There is surely no group characteristic more fundamental to successful family relations than companionableness.

If we are agreed that understanding, openmindedness, imagination, and companionableness are four fundamental group characteristics to cultivate for a successful home, then it is of intense interest to those of us who are homemakers or teachers to see what the different fields of home economics in which we are interested contribute to good group relations in the home. In work with food, we all agree that the right social and psychological reactions are impossible without good physical condition and that this condition is in part dependent upon food. Do we always realize, however, how much the element of satisfaction to the family affects the results of the effort put into planning and preparing food for the family and the stimulus this gives to companionship within the family? Who has not seen a quiet and subdued family wax cheerful and almost hiliarious under the effect of a meal well prepared and attractively served? No teacher should fail to recognize this as one of the reasons for studying the subject of food for the family.

As regards the question of clothing, it is recognized that textile informa-

tion, knowledge of construction, and application of art information all contribute at least indirectly to successful family life, because they make it possible to provide physical comfort and social satisfaction with minimum cost; but what does a study of clothing contribute directly to good group relations? The study of clothing, and especially its wise selection and the making of a clothing budget, calls for the exercise of the group characteristic of understanding. The settlement of the clothing problem in the home is unfortunately often the means of breaking rather than cementing happy relationships, but if there is an intelligent appreciation of family clothing problems as a whole, as well as practical information regarding the merits of different kinds, all the members of the family can be brought to understand why certain decisions must be made. Watch two families with high school or college girls, one set of whom have studied clothing work and one not, and you will probably recognize how systematic information contributes to understanding and thus to the smoothness of family life.

The study of financial problems is a unit of work whose significance in happy and successful homes we have particularly pointed out. A proper handling of financial matters is obviously important to the security of the home, and it establishes a sense of relative values which lessens indiscriminate desires. Thus it contributes quite definitely to the group-characteristic of understanding. A lack of ability to expend the income wisely shows itself over and over in misunderstanding. The girl who wants more clothes than family funds allow, the mother who has nothing left for her own wardrobe after the rest of the family is fed and clothed, the man who yearns for opportunity for further business or professional advancement—these are often the victims not of too little income but of unwise use of income. When this happens, we are likely to find the fundamental group characteristic of understanding absent.

The efficient handling of financial matters may also contribute to companionship. While companionship among the family group is not dependent entirely upon income, it may often be furthered by the ability of the family purse to provide home comforts and pleasures, and this provision for enjoyment within the home should be taught definitely as one of the desirable uses of income.

Closely related to the handling of finances is the work which home economics is doing to help women and girls appreciate the economic contribution of different members of the family. We are sometimes inclined to act as if it were especially important to have men recognize this difference, but in reality this is particularly important for the homemaker

because it enables her to form a less prejudiced judgment with reference to those activities which may be carried on either in or out of the home. A recognition of the service rendered by each member to the family life also makes for understanding within the group. For twelve-year-old John to realize how much it would cost to replace mother's work in the home and what this replacement would mean in lessened pleasures, comforts, and school opportunities, makes him more willing and eager both to help with household affairs and to accept with esteem rather than criticism the services which she renders. This sort of understanding and the appreciation which results from it are essential to the happiest family life.

We have thought and taught much about the efficient operation of the home and the increased leisure which it brings, but have we always shown the significance of the fact that it provides more time to think through the problems which beset the family—problems of dispositions, of tendencies to overcome or encourage, of physical habits which are reacting upon the serenity of family life? These problems do not solve themselves by good intention. They require thought which parents are often too weary and too pressed to give unless time is definitely set aside for it. Leisure of parents is absolutely essential for the development in the family group of the characteristics of openmindedness, imagination, and companionableness. We study and teach right equipment, then, not merely to relieve overburdened homemakers, but to make possible for them enough leisure to attack the problems of human development in the family.

No discussion of the effect of home economics teaching upon right family relationships could be complete which failed to point out the significance of the work in child development and parental education. Almost all of us have been in a home where we could note the effect which satisfactory or unsatisfactory behavior of a child had on the whole family. The work which is being so wonderfully developed in this field must not only indicate how the behavior of children shall be directed but must direct it so that it will fit into a happy family scheme. This means three things on the part of parents: a knowledge of child attitudes and characteristics, training in the way of guiding them, and an appreciation of the relation between other management problems in the home and those of child behavior.

Such a simple matter as the continual nagging of children at table often destroys companionship which otherwise might have been enjoyed by the group at the meal hour. If, on the other hand, the parents know that example is a powerful method of training young children and that nag-

ging frequently leads to irritability and contrariness, such situations may be more often avoided and understanding and companionship furthered.

Illustrations of the influence of homemaking activities on the establishment of right family relationships could be continued almost indefinitely. These relationships reach their best development when there is as a background an appreciation of the effect of homemaking activities upon the group characteristics fundamental to happy and successful family life—understanding, openmindedness, imagination, and companionableness.

As homemakers and teachers we need constantly to remind ourselves that social progress begins and ends in the home and that the home is the initial source of human behavior. Dr. Ernest Groves has said that homes are of three types: good, bad, and bewildered. He says we need not worry about the good ones, they will take care of themselves; nor about the bad ones, for the social agencies will care for those; but that we do need to concern ourselves with the bewildered ones—the ones that do not know where they are going. An application of home economics teaching to homemaking activities can do much to guide families to the point where bewilderment ceases and they are conscious of what good home life should be.

SUGGESTIONS FOR TEACHING FOOD-MARKETING COURSES

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Buying is the point at which home economics meets the world of trade. To give students a vision of the entire problem of providing food for consumers should be the larger aim of a food-marketing course. With such a general plan, a teacher should also aim to develop some techniques for buying specific foods, thus meeting a growing need of the modern home. Understanding where the dollar spent for food goes will make better spenders of future housewives, those financiers who spend 87 per cent of the family income.

The development of a course on food buying for the home calls for excursions to sources of food supply, laboratory projects with food materials, lectures and demonstrations by outside specialists from the food producers and dealers, use of textbook material and current magazine articles, and evaluation of publicity literature published by commercial concerns. The wealth of detailed information makes necessary the keeping of careful files. The time and credit for the course should be adequate for studying the resources offered by the community. Securing food materials for laboratory study involves a special technique and so does the handling of that material when secured. A food-buying course should be preceded by a general course in economics and the beginning course in foods and cookery.

The following suggestions are made for a college course in food marketing, but a high school course might be adapted from them.

To orient the student mind among these problems, it is desirable at the first meetings of the class to assign readings on marketing problems in the home. Problems for study projects will be suggested by reading these articles and by considering the problems the student has encountered in her home living. At the second meeting of the class such suggestions may be handed to the instructor.

The project and problem-solving method seems a valuable one in teaching marketing. Dr. William H. Kilpatrick says:

> By a project I mean any unit of purposeful experience, any instance of purposeful experience, any instance of purposeful activity where the dominating purpose is an inner urge which first fixes the aim of the action, next, guides

its processes, and finally furnishes its drive, its inner motivation. It is to this purposeful act, with emphasis on the word purpose, that I myself apply the term project.

A subject studied and discussed in the class room is a "problem." It is a "project" if in its natural setting of the student's own experience it leads to some purposeful outcome of significance to her. The learner must desire to enter into the plan and have the interest, determination and purpose to see it through to completion. If the project is worth while, situations will arise which will demand reasoning and a considerable amount of judgment.

The projects in a foods-marketing course will include practical laboratory studies, field problems, and library inquiries, as the student prefers and the subject demands. Projects may be pursued individually or in groups, but in any instance some individual work should be planned and executed completely by the student. It is well to have the projects reported to the class when the particular subject touched upon is being studied. This device usually stimulates the student's interest, secures cooperation of other students, and gives opportunity for a student to come into closer touch with the teacher through conference. Reporting the results or findings arouses the competitive spirit and stimulates to better work and greater interest within the group responsible for the project, and, if rightly directed, greater interest for the whole class.

These project reports may sometimes be food demonstrations given by the students. Suggested projects are:

Lecture or essay projects:

Report geographically the sources and study the transportation problems of all foodstuffs used by a family in one day.

Make a study of who buys food for the household. What skills are needed by children to do a share of purchasing?

The value of food legislation to the housewife.

The family food budget.

Study of food advertising from housewife's viewpoint, including effect on price.

Storage problems—history, growth, household adaptations.

The entire market evaluation—what becomes of the consumer's dollar.

The retail store—types, costs, and services.

Consumption economics; consumer's effect on the market.

Survey studies of other marketing courses—topics, methods, etc. (For graduate students only.)

Bibliographical studies, collecting and arranging material for class or project groups.

Laboratory projects:

Study of market for following:

- Beverages
- Butter, milk, cheese, ice cream
- Canned goods vs. home canning
- Cereals and baked goods
- Condiments and relishes
- Eggs
- Fats and oils
- Fish—fresh, canned, and dried
- Fruits—fresh, canned, and dried
- Leavenings
- Meats—fresh, canned, and dried
- Poultry—fresh and canned
- Specialities
- Sugars, syrups, and honey
- Vegetables—fresh, canned, and dried

Demonstrate waste in buying, storing, preparing, and serving foods; outline ways of eliminating these wastes.

Make marketing lists for different types of families.

Study cost in local markets of a standard food list representing the food supply of a family for a year. (e.g., United States Bureau of Labor minimum quantity budget for worker's family.)

Study brands and grades found in local stores.

Make local study of housewives' buying habits.

Compare price for a quantity wholesale food budget with that from home retail buying.

Study marketing museum for laboratory.

Practice marketing in a home during school or vacation.

Outline practical plans for a cooperative neighborhood marketing club with a simple working agreement for the organization.

If food factories or public markets happen to be available, visits to them furnish ideal laboratory problems. One excursion might be made each week to illustrate the production of the food being studied that week. Careful preparation should precede the visit, to guide the student in what she is to see, and follow-up work should help her to use what she has seen. Impressions of the trip may be written in order to get each student's viewpoint and the best reports selected for publication in the school paper. It is better for students not to make notes until immediately after the excursion, as note-taking during the trip interferes with observation.

Often where it is not possible to visit commercial plants, these companies will send their representatives to lecture and demonstrate their products. Some of these demonstrators are trained home economics women who bring much valuable information and are able to give it in the classroom in a very effective manner. One outside lecturer each week might be arranged for without breaking the continuity of the subject matter. No course thus conducted can get into a rut.

Introducing such talks involves careful planning of each quarter's work, and much correspondence, as dates for outside speakers must sometimes be arranged three months or more ahead.

The literature prepared by these demonstrators for their companies is valuable and always available for each student. It may be given to each student where the particular food is being studied or a multiplex or exhibit frame may be used to show samples of literature for which the student may write. Advertising may be effectively studied and evaluated with this material. Its use presents a good opportunity to develop a critical attitude toward advertising material and to illustrate the need for consumers to be on guard against overzealous advertisers.

Possible lecturers and topics before the class might be:

Groceryman: The ideal marketer.

Advertising, newspaper, or publicity man: Buying as the advertiser sees it.

Butcher: Meat cutting demonstration.

Housewives: Marketing discoveries and problems.

Special buyers in wholesale house. How food is bought and dispersed.

Marketing instructor, economist: History of marketing; Standardization; Consumption as it appears to the economist today.

Representative of State Board of Health, state food commissioner, or meat inspector: Government protection of the consumer.

Representatives from various food companies.

College teachers—journalists, dairymen, bacteriologists, meat experts, psychologists, extension specialists: Talks on special subjects.

To learn to select foods, students should work with actual materials. The securing of food materials for a marketing course is expensive in time, labor, and money. Most foods must be secured each quarter, necessitating heavy and special ordering. There is necessarily a good deal of extra handling, as foods are only examined and possibly tasted, and leftovers must be disposed of economically. Commercial concerns are usually quite willing to furnish foods for such studies. These must be kept coming for each repetition of the course, and must be specially selected, and carefully checked when they arrive, and acknowledged

with letters as to results. Special market lists may be arranged for use in ordering, which should be done by the marketing teacher.

To buy vegetables, students need to learn to visualize pound portions. Beside each pound portion as purchased an equal or proportional amount of the same vegetable prepared for eating may be placed, thus aiding in visualizing the edible portion, either cooked or uncooked, and showing the waste in preparation.

Special methods of teaching the characteristics of different foods can be developed. With apples, for example, many varieties may be examined as to appearance and taste uncooked, baked, and cooked in syrup. It may be a surprise to find some poor for cooking but excellent for eating. The season of the different varieties should be noted in order to learn their keeping qualities. Potatoes should be studied in much the same manner. Each student, after seeing the potato boiled, mashed, baked, and creamed, will realize that selection for each special purpose is important. She must also know how many there are in a pound and how many persons a pound will serve. In the case of canned goods, lessons covering at least four periods should be introduced. The class first learns by the demonstration method the sizes of the cans, their weight and capacity in cups. Sometimes it is well to remove the contents, and measure the water required to fill the emptied can.

Then a lesson period is needed for labels,—what the brand means, how to use it, what the food law requires to be printed on labels, where and when goods are packed, and the significance of any other information on the label. For example, "telephone peas" means a large size of pea. As grading is not as yet usually shown on labels, the basis of it must be learned and applied to different products. The solids and liquids should be measured separately and data for the contents of each can tabulated under the following heads: name; brand; grade; cost; local cost; size of can; net weight and amount of contents; size and number of servings and cost per serving.

Such detailed information must be carefully filed so as to be readily available. Five-by-eight-inch index cards for each food have been found best adapted to this need with headings at the top and vertical rulings between the headings. These cards can be alphabetically arranged in a box, thus providing a very helpful marketing file.

Practice in grading may be given by removing the labels, letting each student determine the grade, and then checking results with the facts known to the instructor. Manipulation of materials is most interesting and helpful if directed toward training in judging materials in the market.

Much reference material is available in books and periodicals, and reading may be introduced throughout the projects. If each project group prepares its own bibliography it learns to make good use of the library and to watch current publications. Marketing students soon become interested in their study and realize that it brings them in touch with the whole outside world.

The above is a general outline of possible procedure in teaching marketing of foods; specific details as to the organization of such courses in various universities and colleges were secured by means of a questionnaire sent out from Iowa State College. It went to 205 institutions, and was returned from 123, or about three-fifths of them.

A study of the questionnaire shows that beginning courses in foods, biology, bacteriology, organic and inorganic chemistry, nutrition, and economics are prerequisites for the marketing course in a majority of institutions where the course is offered in the sophomore year or later. Of these, economics is least frequently required, although it gives a much needed background.

It is interesting to note the various names under which courses on food in relation to economics are offered. "Marketing," "food marketing," "food economics" are the most popular names. In some cases marketing is combined with meal planning or with beginning foods.

The course is usually offered to upperclassmen; sometimes to sophomores. Credit for two semester hours seems to be the usual amount allowed, but the amount varies from two-thirds to four semester hours. In Iowa State College, where the subject is required, the course has an enrollment of about 325; enrollment in the other institutions reporting ranges from 6 to 75. It seems more often required than elective.

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THE HOUSING OF STUDENTS IN NORMAL SCHOOLS AND TEACHERS COLLEGES

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The housing of students should be considered an integral part of their education, because the physical and social conditions under which they live is an important part of the college environment, and environment is the most potent factor within the control of educators in modifying the behavior patterns of a given individual. Many leaders of thought have called attention to the part environment plays in conduct. Bernard (1) writes, "an adequate control of social progress and of social and individual welfare lies mainly through the analysis and organization of the environment." Dewey's (2) emphasis on the importance of environment may be illustrated by the quotation: "We cannot change habit directly; that notion is magic. But we can change it indirectly by modifying conditions, by an intelligent selecting and weighing of the objects which engage attention and which influence the fulfilment of desires." Thorndike calls attention to the rôle of environment in behavior by the first of the two words—"stimulus—response."

Incidentally one of the most important contributions of the home economics teacher to education is to teach students how they may make changes in their home environments—how they may set the stage, as it were, for desirable responses on the part of all the members of the home.

The importance of the environment has been generally accepted in theory, if not in practice, and does not need to be emphasized here. The interaction between individual and environment, however, has not been so clearly recognized. Some people have assumed that if an individual is surrounded with beauty and culture, he cannot fail to be influenced by it. Unfortunately culture does not always result from mere exposure to a cultural environment. The furnishing of a dormitory, for example, does not necessarily affect the student in a desirable way unless she actively responds to it.

Accordingly, those concerned with the housing of students should consider the previous history, background, present needs, and interests of the students as well as the physical features of the buildings. Housing is a problem of education as well as a problem of architecture.

In this article the ways in which the physical environment may influence the conduct of students will be briefly reviewed, and the types of housing now existing in normal schools and teachers colleges wlll be

described and discussed. No details of ventilation, lighting, furnishing, equipment, and space allotment are included because these aspects of housing are being studied by other groups, such as the institution economics section of the American Home Economics Association.

Influence of housing on students. There are many ways in which the houses where students live may exert their silent influence on the many-sided development of individuals. Among the features of student life likely to be affected are academic achievement, use of leisure, health and personal appearance, and safety.

Although studying can be done to the accompaniment of radio, riveting, conversation, and other competing stimuli, and although some students insist that they can study and think better in the midst of noise, the little experimental evidence (3) we have suggests that work under such conditions is done only with an increased expenditure of energy. It would seem, therefore, that provision should be made in college houses for a reasonable amount of quiet and privacy at stated times.

Suitable places for small and large group activities is basic to a normal social life. While single rooms are excellent for learning subject matter, double rooms are better for learning the art of living with other people. Suites of two rooms used by two students as study and bedroom, or of three rooms and a bath for two students combine ideally the advantages of double and single rooms. They provide not only for solitude but also for comradeship. A small social room on each floor is another device for remedying the social inadequacy of single rooms.

A large room with movable chairs makes possible large group events. Small reception rooms, broken up into still smaller units by the architectural structure and by the grouping of furniture and lighting fixtures, encourage the kind of small-group social activities characteristic of life outside of college. Normal social development is promoted by the provision of rooms in which women students may entertain visitors of all ages and both sexes.

The way in which students spend their leisure time is determined in part by the housing facilities available for leisure activities. An inviting library, equipped with comfortable chairs, good lighting, current magazines and books, encourages recreational reading. A kitchenette encourages entertaining friends in the dormitory rather than in the neighborhood tea rooms. A stage and properties suggest substituting amateur dramatics for passive attendance at the movies. A piano encourages both impromptu and planned musicales. A victrola or radio in a room with a smooth floor provides for the always popular social dancing.

Two factors in housing—construction and maintenance—bear on the problem of health and personal appearance. In the first place the plan of the house should include adequate sanitary plumbing, direct sunlight, a small laundry where students may wash and press their clothing if they so desire or if their financial condition demands this economy, adequate closet and drawer space necessary for good grooming, and an infirmary and isolation unit where cases of illness may be adequately cared for. The lighting should be of sufficient intensity without glare, not only at the study desk but also at the dressing table; the woodwork and furnishings should be simple in construction; cleaning closets on each floor should be provided to save labor; and devices for the quick and easy disposal of waste should be used to prevent its accumulation. In the second place, the housekeeping plan should include a plentiful supply of hot water, a room temperature maintained at approximately 68°F., a satisfactory daily schedule of cleaning, and efficient cleaning tools and methods of work. The cooperation of the students in keeping the building clean and attractive must, of course, be secured.

An adequate diet is another fundamental factor in health which warrants the expenditure necessary in order to secure the services of an expert who can not only plan nutritionally correct menus, but can also purchase advantageously and supervise satisfactorily the preparation and serving of food. The construction of the dining room, kitchen, and pantry and the kind and arrangement of the equipment is basic to efficiency in food preparation.

In the matter of safety in housing, fire-proof stairways, fire escapes, and other means of fire protection are features which may seldom or never be needed, but nevertheless are of supreme importance if an emergency occurs.

Types of housing in normal schools and teachers colleges. Certain facts about student housing were incidentally obtained by the author in a recent study of the work of deans of women in 103 teachers colleges and normal schools (4). There is a great variety in the provision for housing at these institutions. The most frequent arrangement is a combination of one or more dormitories with off-campus houses. Sixty-six, or 64 per cent, of the institutions house their students in this way. Eleven, or 11 per cent, have dormitories only; fourteen, or 14 per cent, have off-campus boarding and rooming houses only; eleven, or 11 per cent, have sorority houses. Sixteen years ago, the housing situation, as shown by Greenwood's (5) study of 55 teacher-training institutions, was somewhat different. Dormitories alone and boarding houses alone were then the

characteristic types of housing. Only four institutions reported a combination of dormitory and boarding houses. No sorority houses were reported. The increase in the number of off-campus houses enlisted to supplement the dormitories is easily explained by the rapid growth of teachers colleges and normal schools during the last ten years. The building of dormitories has not kept pace with the large increase in enrollment, in spite of their special importance in such institutions.

Three-fourths of the 103 teacher-training institutions in the recent study above referred to have one or more dormitories, but 89 per cent supplement their dormitories with other forms of housing. These dormitories vary greatly in size, from a small cottage accommodating nine students to a great stone building housing 579 women students. Seventeen dormitories house less than 25 students each; nine house more than 200; and four, more than 500. The median number of students per dormitory is 75. More detailed figures are given in the following list:

Dormitories of various sizes found in 88 teachers colleges and normal schools.

Students per dormitory	*Institutions reporting*	*Students per dormitory*	*Institutions reporting*
550–649	2	125–149	6
450–549	2	100–124	12
350–449	1	75–99	13
250–349	3	50–74	11
200–249	3	25–49	16
175–199	1	1–24	17
150–174	1		

It will be noted that the median number of students per dormitory is higher than the number suggested by a committee of the American Association of University Women (6), which considers 30 to 70 students ideal for social development and few enough for a homelike atmosphere. The cases at the smaller end of the distribution need cause little concern, because the small-group cottage type of dormitory is meeting with general approval. The large dormitories, on the other hand, present a real problem in promoting a normal student life.

Sorority houses are not a prominent feature in teacher-training institutions; only eleven of the institutions report them. The size of these houses varies. One institution has five houses accommodating 200 students—an average of 11 students. A large teachers college has 14 sorority houses accommodating from seven to eighteen students each.

Sorority houses offer certain advantages in that they are of suitable size for intimate fellowship and give students opportunities to exercise initiative and administrative ability. Perhaps the extent to which the sorority house approaches the ideal home economics "practice house" determines to a large extent its educational value.

Only one teachers college reported having a cooperative house. Dormitories in which the cleaning, and in some cases the cooking also, is done by students to reduce their living expenses have been successfully operated at Smith, Wellesley, and other liberal arts colleges and universities. These houses furnish an opportunity for students to learn modern methods and devices for caring for a home which will give them additional time for intellectual and other interests. This type of housing should be especially appropriate for institutions in which a large proportion of the students must be partially or wholly self-supporting.

Off-campus housing is a predominant feature of teachers colleges and normal schools, reported by seventy-five institutions or 73 per cent of the total, as is shown in the following lists:

Number of off-campus boarding houses for students per institution reported in 90 teachers colleges and normal schools.

Houses per institution	*Institutions reporting*	*Houses per institution*	*Institutions reporting*
300–559	2	70–79	3
200–299	4	60–69	2
150–199	6	50–59	3
140–149	1	40–49	1
130–139		30–39	10
120–129	4	20–29	6
110–119	1	10–19	5
100–109	8	1–9	10
90–99	4	None	15
80–89	5		

The median number of off-campus houses in teachers colleges is 77, in normal schools, 13; in the two groups combined, 39. Scarcely a good word has ever been said for off-campus houses. They have been considered a necessary evil. Their many faults have been pointed out (8) —general faults, such as difficulty in promoting college unity when the student body is widely scattered, "securing high social standards and practices," providing an adequate diet, standardizing prices, securing

adequate heating and toilet facilities, attractive furnishings, and "provision for social intercourse." Additional difficulties arising from undesirable characteristics in the family and the person of the landlady have also been mentioned. The housing committee of the American Association of University Women (6) came to the conclusion that "the boarding house manner of living—as we see it in the privately-owned boarding houses in which the majority of girls at state-supported colleges live—contributes nothing toward making a girl mistress of life."

There are, however, several good words to be said in favor of off-campus houses. These houses theoretically have greater educational possibilities for prospective teachers than any other type of housing because the living problems they present are more like those which students will face in the communities where they will teach. The school situation in this respect is identical with the life situation in many cases, and the transfer of "learnings" should therefore be great. What "learnings" may be expected to result from living in off-campus houses? Under conditions in which the educational possibilities are fully recognized by the dean, the students, and the landladies, students should improve in the following abilities—ability to cooperate with the landlady concerning the mechanical features of living and to interest her in making necessary changes in furnishings, equipment, and service; ability to improve the appearance of a room with a small expenditure of money; ability to associate with a small and perhaps varied group to the mutual advantage of all; ability to get along with people of different moral and social standards, and possibly to lead them gradually to raise these standards; ability to make constructive and practical suggestions for needed changes in the menus; ability to devise ways and means of securing places and times for desirable social activities; and ability to maintain high social standards without immediate supervision. The off-campus houses thus furnish practical laboratory practice in phases of living which students will later encounter. Courses for students as well as courses for landladies are needed to help students gain control over this phase of their environment.

Conclusion. The description and discussion given thus far does not give an adequate idea of the diversity of housing found among teachers colleges and normal schools. There are almost as many different combinations of housing as there are institutions. The dormitory, however, is the standard type of housing, and off-campus houses are the characteristic method of supplementing insufficient dormitory accommodation. These institutions should consider the advantages of the cooperative dormitory for their groups of students. Institutions which have secured

appropriations for new dormitories should study the cottage type of dormitory, because such a housing system encourages a more nearly normal small-group social life. The educational possibilities of the off-campus houses, which probably cannot be discarded for a number of years, should be recognized and developed.

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OPEN FORUM

An Experiment in Domestic Science for the Lower Grades. An overcrowded condition in one of our platoon schools and the lack of a print shop such as is usually provided for boys has led to an experiment in extending domestic science work to boys as well as girls in the lower primary grades. In arranging the school work it developed that no separate provision could be made for the boys of the third to the seventh grades while the girls were occupied in the kitchen, and it became necessary to give domestic science to the boys as well as the girls. This called for a new type of presentation of the domestic science work suited to the needs of these little people and adapted to the large classes which must be cared for.

Each grade comes for one hour a day for a period of five weeks. All the lower classes are given a very simple course in the meaning of food and the necessity of having foods that supply energy, body-building material, body-regulating material, and vitamins. The names of the common foods that supply the body with these things are learned. To fix these facts in the minds of the third and fourth year children, they make scrap books which they may take home at the end of the five-week cycle. Current magazines provide abundant material; pictures of foods are cut out, classified as to the use the body can make of them, and pasted in the scrap books under the respective headings. It is surprising how much the children learn in this way.

The fifth and sixth year classes, after the introductory work on foods has been completed, make charts on which are drawn some of the more common foods, such as white and whole wheat bread, carrots, bananas, eggs, fish, and the like; the pictures are then colored with crayon to show the relative amounts of protein, carbohydrates, fats, and minerals each contains. Vitamin content is also taken into consideration. On the reverse side of each chart food facts are written so that the children have the story in picture and word form.

In addition, the sixth year pupils make a study of cereals, their history, growth, preparation for the market, and food value. Booklets and charts published by some of the cereal manufacturers are valuable aids in the teaching of this subject. First the teacher and then members of

the class demonstrate how to prepare fine and coarse cereals and this necessitates the teaching of measuring and the use of utensils.

Since the utensils used have to be washed, dish-washing lessons are now introduced. Setting an individual cover is taught and the correct use of spoons, knife, and fork. Posters showing the individual cover are made which may be taken home.

Studies are also made of milk, its care and food value, and of the production of cocoa and other foods, and in connection with each there is a demonstration of the use of the food.

Not all of the children can be given an opportunity to demonstrate each type of work, but effort is made to give each child a chance to demonstrate at least one thing during the five weeks.

The boys in these groups are as keenly interested as the girls, if not more so.

This method of handling the large lower-grade groups is still in the experimental stage, but we hope to find still further ways of applying the food facts and eventually to work out a more unified course.

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An Investigation of the Fastness of Color of Cotton Fabrics.[1] Consumers, even the intelligent ones, are handicapped by lack of reliable means of judging the fastness of color in cotton fabrics. Reliable household tests have not been devised, guarantees used by manufacturers or retailers are often unsatisfactory, and a vast amount of misinformation concerning fastness of color is current among consumers, even among those who are supposed to know. The number of consumers who now are actively contributing to the efforts of the reliable manufacturers to improve color is very small. Many do not demand fast colors in cotton fabrics because they feel it is useless. Others fail to distinguish between a guarantee and a statement that could in no wise be considered a guarantee. Most important of all is the fact that a large majority of consumers do not return goods that fail to come up to the guarantee, one estimate being that only 2 per cent return unsatisfactory goods.

The purpose of the present study was to find a simple and reliable household method of testing the color of cotton fabrics for fastness to laundering and light; to determine the relative fastness of color in guaranteed

[1] Summary of thesis submitted by Margaret Kirkpatrick in partial fulfillment of the requirements for the degree of master of arts at the University of Missouri, 1927.

and non-guaranteed cotton fabrics; and to encourage the consumer to improve her standards of selection.

To determine the tests which should be applied to the various materials now commonly found on the market, preliminary tests were made on nine brands of suitings and ginghams.

These materials were tested by applying the Washable A test of the American Association of Textile Chemists and Colorists, which was worked out for the use of manufacturers in testing the fastness of dyes to laundering. The materials were also tested by washing fifty times in a manner comparable to that used by the housewife, that is, with neutral soap solution and lukewarm water.

When the results of these tests were compared it was found that the Washable A test was somewhat more severe than the treatment received in the home. The Washable A test was then modified to compare more nearly with home methods, and converted into a test usable by the housewife. The test thus modified is as follows: A sample of the material is attached to a piece of white material, boiled for 15 minutes in a solution made of 1½ teaspoonfuls white neutral soap flakes, ⅓ teaspoonful washing soda, and 1 cup of water; rinsed well, dried, and pressed with a warm iron.

Since fastness to light must be considered, as well as fastness to laundering, it was necessary to work out a suitable test to be quickly applied to a large number of materials. Experimentation indicated that an amount of fading quite similar to that caused by exposure to 100 hours of summer sunlight could be produced by exposing fabrics to the rays of a quartz mercury lamp for 4 hours and 45 minutes, and this procedure was accordingly adopted.

After this preliminary work, the household test for fastness to laundering and the test with the quartz mercury lamp for fastness to light were applied to 103 fabrics of various types. They included yellow, blue, pink, lavendar, and green specimens of each type, the shades selected for each color being as nearly uniform as possible. Of these, 54 were guaranteed to be fast color and 49 were non-guaranteed; 24 of the non-guaranteed were sold under brand names and 25 without. The results of the tests were graded according to the amount of fading, and the desirability of the materials was rated according to fastness. A comparison was also made of the range of price of the guaranteed and non-guaranteed fabrics.

The results may be summarized very briefly as follows: Guaranteed fabrics were in general decidedly more reliable than non-guaranteed, and those sold under brand names slightly more reliable than non-branded fabrics, as to fastness to laundering and as to fastness to light.

The range in price of the guaranteed materials was somewhat higher than that of the non-guaranteed fabrics, but the greater reliability in color and better quality of material may offset this in certain cases.

There was wide variation in the reliability of fabrics guaranteed as fast color, from which it may be concluded that the consumer cannot yet depend absolutely upon the guarantee, and should apply the simple household test.

In a majority of the fabrics tested there was a close correlation between fastness to laundering and fastness to light. Some, however, varied widely.

From this it is apparent that the consumer needs more knowledge of the materials she buys. She should be better informed concerning guarantees and brands and should supplement information obtainable from the dealers by testing at home and by the results of her own experiences. She can help reliable manufacturers, who are trying to put dependable goods on the market, by demanding such goods and by returning those which she finds unreliable.

Another point brought out by this study is the desirability of a standard classification for the degree of fastness of color. Manufacturers are working toward this and need the encouragement and cooperation of intelligent, well-informed consumers.

In all these efforts to increase the reliability of textiles in common use, home economics departments also can help by conducting more studies which will increase the information available to the consumer.

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Child Care at a Summer Teacher-Training Conference. In order that the value of a right environment for children might be better appreciated, the vocational division of the Massachusetts Department of Education offered a program of work in child care and training at the Teacher-Training Summer Conference. Twelve teachers from day home-making and continuation schools enrolled in the course, and arrangements were made with the North Bennett Street Play School for Habit Training and the Nursery Training School of Boston for groups of six members each to meet for daily observation and conference with the leaders of the schools. Every group member observed a particular child during the week, noting how the school met the normal needs of the child, and the treatment of special behavior problems.

The objectives of the course, as set up by the teachers were:

1. To study the physical, mental, and social development of the preschool child.
2. To study the habits of individual children as observed in the play and nursery schools.
3. To gain an appreciation of the importance of environment in education as seen in personality traits expressed in attitudes and reactions of children.
4. To learn how habits are acquired, how developed, or changed, and to show how right mental and physical habits produce emotional stability.
5. To recognize the importance of follow-up records in case of study.

After the week of observation in Boston, the group of teachers met as a unit at the Fitchburg teacher-training session for a week of conference and study.

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Cake Making in High Altitudes. Few experimental data are available to help in adapting recipes for baked products for use at high altitudes. Cakes, probably because of their complex nature, are particularly prone to failure when made according to recipes from standard cook books.

Bradley (1) for altitudes of 7200 feet advises the use of one-third less baking powder than a standard one-egg cake recipe specifies. For richer cakes she states that better results are obtained by using one-sixth less butter, one-eighth less sugar, and one-fourth less baking powder. Whitacre (2), whose experiments were conducted at the Agricultural College of Utah, reports that 33 per cent more butter, 33 per cent less sugar, and 7 per cent less flour "improved loaf cake considerably."

The present study was made with plain layer cake in the foods and dietetics department of the Agricultural College of Utah, where the altitude is 4700 feet. The experimental work was conducted under as nearly identical conditions as possible in a laboratory where such environmental conditions as humidity, temperature, air currents, could not be controlled. The ingredients were weighed on a trip balance, and all alterations in the recipe were made by weight. The same mixing and baking utensils were used and an attempt was made to standardize method and time of manipulation. The same standard grades of flour and baking powder were used throughout the work. Cakes were made one day and scored

the day following. In all, 30 two-layer cakes were made, following a definite scheme of variation in the ingredients. When a fairly good cake resulted, the operation was repeated on the same day with a slight alteration for purposes of comparison. Greer's (3) score card, with the following details specified, was used as a basis for judging.

General appearance—size, shape, color	10 per cent
Baking—character and depth of crust	15 per cent
Lightness—spongy, tough, or tender; moist or dry	20 per cent
Grain—fine, coarse, medium; even distribution	15 per cent
Flavor—crumb; crust	40 per cent

The following was the original recipe:

½ c. butter or $\frac{5}{12}$ c. vegetable cooking fat
1 c. sugar
2 eggs
½ c. milk
1⅔ c. flour plus 3 tb. cornstarch
3 t. baking powder
½ t. salt
1 t. vanilla

Cakes made from this recipe were invariably heavy, sunken, and coarse grained; the crust was shiny and speckled; the flavor was "buttery." The recipe which was finally decided upon produced a cake that was moist, light, and tender; not too rich, and of good flavor. The combination of ingredients was as follows:

⅓ c. vegetable cooking fat
1 c. sugar minus 2 tb.
2 eggs
¾ c. milk
1⅔ c. flour plus 3 tb. cornstarch
3 t. baking powder
½ t. salt
1 t. vanilla

It will be observed that a reduction of one-twelfth in fat, one-eighth in sugar, and an increase of one-half in milk were the alterations which in this particular recipe best suited this altitude. Particular attention was paid to the possibility that less baking powder might be desirable, but the results did not justify such alteration.

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The Cost of a Year at College: Studies at Sweet Briar College, Oregon State College, and Florida State College for Women.[1] What does it cost to send a girl to college? Figures in answer to this question have been compiled for three colleges of different types and in widely separated parts of the country, and a comparison is interesting, though of course no generalization can safely be made from such scattered and incomplete data.

Sweet Briar College, it will be remembered, is a privately endowed, non-sectarian college of liberal arts for women in Virginia, and draws its students from many states, especially in the Southeast. It has an enrollment of about 450. All of the students, except a few whose homes are in the neighborhood, live in the college residence halls. The study of student expenses was made by Frances H. Leighton, director of home economics, and was based on the cash-account books kept for 27 weeks by ten home economics seniors, approximately one-fifth of the graduating class. These records were compared with accounts kept by a larger number of students over a shorter period of time, and no appreciable variation in the average was found.

The Oregon State Agricultural College at Corvallis is a coeducational institution supported by state and federal funds and has an enrollment of over five thousand. Of these, over two thousand are women, of whom five hundred live in the three halls of residence for women. The study here considered was made under the direction of A. Grace Johnson, professor of household administration in the School of Home Economics. Personal accounts were kept by home management classes of junior and senior students during three successive years with an average of 19 students per class. A study of these figures is presented by Mildred Nye, a senior in home economics.

Florida State College for Women, Tallahassee, is supported mainly by state appropriations; its enrollment is not far from fifteen hundred and its five residence halls provide living quarters for nine hundred. The figures for student expenses there were secured by a different method. Under the direction of Florence Armstrong, professor of economics, the class in the economics of consumption circulated a questionnaire asking for specific and detailed information as to expenditures for one semester. This questionnaire was filled out by 335 of the 1328 students—about 25 per cent. With these figures as a basis, the class made estimates of the amount required to live in comfort at the college for a school year. Three

[1] Comments on the studies at Oregon and Florida will also be found in the *Journal of the American Association of University Women* for June, 1928, pages 149 and 150.

suggestive budgets—high, medium, and low—were drawn up and published in the college newspaper.

Certain items in the three studies were obtained by such different methods or represent such different values, that direct comparison seems impossible. This is especially true in the figures for cost of clothing. At Sweet Briar, the figure represents expenditures for an entire year. Data on this particular item had been secured in a previous study by averaging the cost of clothing bought over a period of three years. The amounts spent annually for clothes ranged from $450 to $1,200 with $550 as the sum spent by the majority of students. The average expenditure for clothing at Oregon State College is listed as $70.16 but this includes only money spent by the student while in residence at the college and takes no account of clothing purchased during vacations. The questionnaire at Florida State College for Women called for estimates of the cost of clothing brought to college plus the cost of clothing purchased during the semester. The lowest figure handed in was $28.50; the highest $1,694.50. In making suggestive budgets for a year, $364 was allowed for clothing in the "medium" budget, $170 in the "low" estimate, and $540 in the "high." This "high" estimate at Tallahassee is practically the same as the amount most commonly spent at Sweet Briar.

Travel is another item which varies greatly, not only among students of different schools but also among students in the same school. At Sweet Briar, for example, the amounts spent for railroad fares by a comparatively small number of students were so large that it seemed better to exclude this item from the totals. Local carfare, including bus fare to nearby points, was however, included under "miscellaneous." In the records from Oregon State College, "travel" includes all transportation and averages approximately $26 annually. The suggestive "medium" budget at Florida State College for Women allows $40 for this item.

Another item for which expenditures varied was that of gifts. At Sweet Briar it was found that in the month of December half of the students' total expenditures were for this purpose. Earlier studies in other women's colleges showed nothing comparable to this, and the item was omitted from the Sweet Briar totals. This seems further justified by the fact that at Oregon State College gifts represented only 2.2 per cent of the total expenditure for the school year, and that in the suggestive budgets from Florida they were not included in the "low" estimate and represented only a small proportion in the "medium" and "high" ones.

Excluding clothing from all three lists, and railroad fare and Christmas

gifts from the Sweet Briar averages, expenses for the school year at the three institutions are compared in Table 1.

In spite of the fact that the Oregon figures were obtained from a study of accounts kept over a three-year period, while the Florida students were given 24 hours in which to fill out their questionnaires, there is a surprising similarity between the Florida "medium" budget and the Oregon figures. The average cost of room and board at Oregon is $260; at Florida the "medium" cost is $238. Fees are respectively $92 and $88 (tuition is free to residents of the state at both colleges); books and supplies $27 and $30; travel $26 and $45; and miscellaneous $100 and $80. Possibly if this last Florida figure had been derived from actual accounts it

TABLE 1

Summarized expenditures for various items, exclusive of clothing

ITEMS OF EXPENDITURE	SWEET BRIAR	OREGON STATE COLLEGE	FLORIDA STATE COLLEGE FOR WOMEN SUGGESSTIVE ESTIMATES		
			Low	Medium	High
Board and room	$440	$260	$215	$238	$313
Tuition, fees, and dues	348	92	36	88	121
Books and supplies	25*	27	15	30	39
Travel		26	30	40	135
Miscellaneous	392†–652†	100	44	80	137
Total	$1,205–1,465	$505	$340	$476	$745

* Books only.

† Includes supplies and local bus fares.

would approach even more nearly the Oregon level, for day-by-day records are apt to show expenditures which are forgotten in making post-mortem estimates.

A study of the expenses in all three colleges shows that the proportion spent for room and board, tuition, fees, and dues is between 65 and 70 per cent in each institution. Miss Nye comments on this proportion in the Oregon report.

> Whether a girl is a spendthrift or a good manager is not such a large factor as one might believe, for the greater part of the expense of college is little different for either. Board, room, dues, and fees . . . . are imposed by the institution or organization and are not subject to individual economy or lack of economy. In the college from which these statistics are taken, board and room charges by both sorority houses and hall are regulated by a faculty member in charge of all these organizations. In this way variation between the cost of different living places is very small indeed.

At Sweet Briar, the price of board and room is fixed by the college; at Florida State College for Women the college makes a fixed charge for food, and rooming costs depend on whether a girl lives in the dormitory or in a cheap or expensive house outside. The figure in table 1 is for the dormitory.

A further analysis of the Oregon State College figures is enlightening. Miss Nye writes:

> Nearly 11 per cent[2] of total expenses is paid to the college or university for registration, tuition for out-of-state students, fees, covering expense for laboratory supplies, and dues, including class and club memberships and admittance to all student body functions, such as athletic contests. The fraternal organization exacts only 4 per cent, whereas it probably seems that there is bill after bill for initiation, social dues, rushing, and other items. Not all the nineteen students in the average were sorority members, however.
>
> Operating expense amounted to 4.9 per cent for personal use and 4.7 per cent for school books and supplies. The travel percentage averaged 4.6 per cent, including expenditures by those coming from far distant states and those living in neighboring towns. The average student pays 2.2 per cent for gifts, and 0.9 per cent for church contributions. The low amount for health, 0.7 per cent, is due to the fact that at Oregon State there is a college health service for the benefit of the students, maintained from registration fees.
>
> A surprisingly low figure is that for social life, refreshments, and amusements—2.7 per cent—which contradicts the prevalent belief that the col ege girl wastes a large amount of her time and money on her own pleasures. This percentage would necessarily be much higher for a man, who must spend for both himself and the girl in social activities. Only 0.6 per cent of the college girl's expenditures is saved, while a correspondingly low amount, 1 per cent, is spent for non-essentials; that is, expense that could with thought or care have been avoided. While the college girl is paying more for educational advancement than the working girl, the latter is probably paying much more for such items as health, amusements, social life, and non-essentials.
>
> The lowest division percentage is that of 0.6 per cent saved. This is probably not so much because a college girl can saqe no money as it is because she is receiving her funds from home and feels that it is rather a farce to saqe out. If she is earning her own money, she probably needs all she can earn for her own use. Even this small amount saved is more a result of insurance of some kind carried by the student than of any actual saving of cash. A comparison surprising to some people may be made between expenditures for church benevolences and those for social life. Social life, which includes dinners,

[2] Percentages in Miss Nye's discussion are based on the cost of a year in college as given in table 1, plus $70 for clothing.

luncheons, and dances, takes only 0.2 per cent more than the 0.9 per cent for church, the average amounts spent being $7.43 and $6.06 a year respectively.

The three suggestive budgets which were worked out at Florida State College for Women totalled $510, $840, and $1,285 respectively, including clothing. One of the most important contributions of the Florida study was its effect on the students themselves. The college newspaper, the college government association, and organized groups assisted the economics class in the survey, and college-wide interest was aroused in more intelligent methods of planning and making expenditures during college days.

TABLE 2

Comparison of expenses at Sweet Briar with those at other colleges

COLLEGE	COST	COMMENTS
Sweet Briar	$1,205–1,465	Includes tuition, bookshop fee, students' activity fund. Does not include clothes
Cornell*	$1,250–1,450	All expenses. Lower cost for non-sorority women students
Wellesley†	$1,850–	Does not include total cost of clothing
Mount Holyoke‡	$1,650–1,700	Includes clothing

* *New York Times*, December 4, 1927.

† H. R. Mussey, Is she worth it? *Wellesley Alumnæ Quarterly*, 12, October, 9–11 (1927).

‡ Aryness Joy, How the college girl spends her money. *Mount Holyoke Alumnæ Quarterly*, 11, January, 199–206 (1928).

At Sweet Briar, a comparison was made with costs at other colleges as shown in table 2. Miss Leighton comments:

It is possible for a student to participate in many activities and still keep within the Mount Holyoke average. Adding a clothing charge of $550 to the $1205–1465 brings the figures to $1755 and $2015 respectively. These figures bear out the estimates given by parents of Sweet Briar students, since the largest groups of parents who gave estimates of annual expenditures set aside from $1550–2265.

Our figures are based on a comparatively small number of account books, but on the other hand the students are typical of all the other students, and do give a fair view of college expenditures. These students as seniors probably tend to spend more than under-classmen, since they are allowed more week-end cuts. These would naturally tend to raise the amount of money spent for food, transportation, and sundries. It seems possible for allowance of $25 to cover all incidental expenses with the exception of the larger clothing items and railroad fare.

Short Course in Household Equipment. The first electrical short course in household equipment held in America was given at Iowa State College in the spring of 1927. The program and instruction were arranged by the household equipment department and the engineering extension department. This short course was so successful and so well attended—the registration listing 100 women from 15 states—that a second course was offered this year.

For the 1928 short course, the instruction was extended to include gas equipment for the home. Such equipment as ranges, water heaters, heaters for laundry appliances, ironing machines, refrigerators, and incinerators were used. Educational and general exhibits of household equipment and appliances featuring outstanding progress in design, construction, and operation were furnished by manufacturing companies for display throughout the week. Instruction was by lecture, laboratory, and conference methods. Laboratory classes were divided into small groups so that the equipment under discussion could be used by the persons attending the classes. The members of the household equipment staff and the electrical engineering department who were in charge of the program were assisted by other members of the home economics faculty and representatives from the public utilities, manufacturing companies, and other organizations.

Although homemaking is the greatest single industry in the world, the use of modern equipment has not been introduced into the business of homemaking as rapidly as it has into other industries. It is the hope of those in charge of the household equipment short courses that they may be of help in analyzing some of the conditions that contribute to this situation. The short course is designed to give technical and non-technical information which will be useful to women interested in the program of the gas and electrical industries for the presentation of household equipment for use in the home, their public relations work, and their publicity and advertising activities.

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EDITORIAL

American Association for Adult Education. The third annual meeting, which was held at Swarthmore College May 15 to 17, was notable not so much for the numbers in attendance as for the fact that practically all of the men and women present were engaged on active programs of adult education and for the variety and significance of the organizations represented.

It became evident through the discussions that despite the fact that programs for adult education are being carried on by dozens of organizations and that thousands of men and women are enrolled in the classes, there yet remain thousands who have not been reached and many areas, both urban and rural, where such programs are not yet available.

Another general impression produced by the meeting was that of our lack of definite knowledge regarding the aims of adult education,—what shall be taught, to whom, by whom, and for what purpose. When we think of research in education we usually have in mind problems other than of adult education. The speakers at Swarthmore revealed the variety of information that must be gathered before we can say how the students in this new field can be best matched to teachers, subject matter, and methods. Meanwhile, each item of individual experience is welcomed for the light it may throw on similar situations elsewhere.

Like other phases of education, adult education touches or may touch home economics at many points. Hence it behooves home economists to keep in touch with progress in adult education. If we are to make our contribution to education complete, we must see that, in so far as it is pertinent to well-rounded, successful adult life, subject matter in our field is made available in the adult program.—A. L. E.

Adult Education and the Public Libraries. That adult education is occupying an ever-increasing share of attention in the library world is apparent to anyone who reads educational journals or even general reviews, and is further shown by the fact that the American Library Association now publishes a little quarterly, *Adult Education and the Library*.

The leading article in the April issue is devoted to "Those Who Follow Reading Courses" and in it Miriam D. Tompkins analyzes the way in

which during 1927 over a thousand men and women voluntarily used the facilities of the Milwaukee Public Library for following systematic courses of reading. Of these more than nine-tenths carried their courses to completion—a proportion in striking contrast to that found in privately operated correspondence schools, in 75 of which only 6 per cent of the students are reported to have completed the assigned work. The majority of the Milwaukee readers were between the ages of twenty-one and twenty-five. The courses were planned by the library advisers to fit the special inclinations and abilities of the readers; many of them were vocational in character and the books selected were in each case such as would together give a general picture of the subject.

Courses were worked out on over a hundred subjects, of which the ones listed as "general" and "literature" were the most popular, with English and psychology next. A course in home economics had nine readers and special phases of the subject were represented by child training with two readers, costume design with four, dressmaking with one, hotel management with one, and interior decoration with forty-five. Among the persons following the courses were 107 who styled themselves housewives, the largest group except that of stenographers. In addition to these individual courses, the "Reading with a Purpose" courses prepared by the American Library Association were followed by 516 persons. Psychology was the most popular of the 28 subjects, with one on children ranking ninth.

The types of persons interested in reading at the St. Louis Public Library were described at the annual meeting of the American Library Association in an address by Charles H. Compton. He studied the records of about a hundred readers of William James and as many of Carl Sandburg and of translations from Homer and the Greek tragedians.

> First of all, there were very few, if any, from our so-called intellectuals. Not a lawyer on the list . . . . a few doctors—a few ministers, but the bulk came from what we consider the uncultured and certainly the humble occupations. Readers of James include a trunk maker, a machinist, stenographers, a saleslady, a laundry worker, a common laborer, a maintenance man in a soap factory, a colored salesman. That these readers in part at least really appreciated James and read him, not because they were consciously striving to improve themselves, but because he had captured their hearts and minds, is indicated by letters which I received from a number of them in answer to a letter which I had sent to them, inquiring how they happened to become interested in James.
>
> Readers of Sandburg include stenographers, typists, a waitress, a beauty-

parlor manager, laborers white and black, a department store salesman, a book agent, a musician, a painter, a shoe salesman and an advertising man.

It may be noted that a number of readers said in their letters to me that they had become interested in Sandburg's poetry through university extension or night courses.

The readers of the Greek Classics include printers, clerks, salesmen, a abinet maker, a draftsman, stenographers, a musician at a vaudeville theatre a colored insurance agent, a hairdresser, a chauffeur, a drug store clerk, a beauty specialist, a butcher, a telephone operator and a railroad brakeman's wife.

Rural Libraries and Periodicals. Another significant development in library work is the increasing use of "book automobiles" for rural communities. According to the *Official Record* of the United States Department of Agriculture, over four hundred thousand country people in Los Angeles County, California, are supplied with books from central libraries by two special automobiles which are fitted out with shelves and which are driven, usually by a librarian, on daily trips of a hundred miles or more. Burlington County, New Jersey, has a library with a central building, a staff of four, and 135 branches to which it distributes not only books but also pictures, films, and phonograph records. In Coahoma County, Mississippi, which has a population hardly over fifty-thousand, about six hundred books are distributed daily, and the service is maintained for $4000 a year by contract with the library at Clarksdale. There are said to be several hundred county libraries which carry books direct to their rural communities. They are supported in various ways, but there seems to be no doubt that they are worth far more than they cost.

Yet another sign of the times is the changing character of the books and periodicals intended primarily for rural use. Anyone who remembers the books of this sort that were put out a generation ago will agree that those of today represent far higher standards for value of content, form of presentation, and the mechanics of bookmaking. About agricultural periodicals, past and present, and their place in the public library, Malcolm G. Wyer of Denver had interesting things to say at the recent meeting of the American Library Association.

Agriculture is one of the leading industries of the country, and its periodical literature is most voluminous. About two thousand trade journals are published in the United States, and of these, nearly six hundred are devoted to agriculture. From the earliest agricultural magazines, *Agricultural Museum*, founded in 1811, and *The American Farmer*, in 1819, the number of periodicals

in the field has increased rapidly. The extensive development of the agricultural sections of the country and the close contact between agriculture and business of all kinds offered an unusual opportunity to agricultural periodicals.

Each library should have available a few of the journals of national importance and scope along general agricultural lines. . . . . The tendency in these papers has been to change from weekly to bi-monthly; and to improve the periodical in size, in make-up, in general appearance, and in scope. They are devoted to giving a broad outlook on farm management and general rural and agricultural problems rather than to special feature articles or details, to interest not only the farmer but also the farm owner who may not actually be engaged in practical farming.

The library should also have the best farm magazines of local appeal, the ones which are published within its state or within its section of the country devoted to the particular problems found in the region where the library is located. Several points must be considered in selecting the local farm magazine, such as the advertising policy, the character of the editorials, and the feature articles—whether these are by specialists or ones which have been clipped or copied without reference to their value but merely as space fillers.

"Preferred Numbers." Simplification in the sizes of products in common use is the subject of this editorial, not some combination for breaking the bank at Monte Carlo. The words are a technical phrase used by the engineers who are concerned to cut down the enormous waste due to "the arbitrary and haphazard selection of sizes which is still the common practice." Under the auspices of the American Engineering Standards Committee a two-year study has recently been made of the problem by a committee of scientists and engineers. Their recommendation is the adoption in this country of the so-called preferred numbers system which has proved successful abroad. According to a statement from the American Engineering Standards Committee,

The progression of sizes from the smallest to the largest, scientifically, rather than by chance, and the elimination of slight differences for which no need exists, is the purpose of the "preferred numbers." With this system, as the sizes become larger, the difference between successive sizes become greater. The system is not revolutionary, according to the report, since it is, in principle, in constant use. For example, a purchaser might buy a half ounce or one ounce or two ounces of a drug at the drug store, but he would not buy sixteen and one-half or seventeen ounces. He would instead buy one pound or one and one-half pounds or two pounds. Thus there would be a difference of perhaps a half ounce in small purchases; but since such a small difference would be insignificant in large purchases, the difference is perhaps a half pound or a pound.

The application of this principle to manufacturing where insignificant differences in size are continually found, even in articles of large dimensions, would simplify manufacture, distribution and purchase, the report says. The manufacturer could use fewer machines and apply the principles of mass production with resultant economy. The distributor, needing fewer sizes in his stock, could reduce his inventories and sales costs, and effect numerous attendant economies. The consumer, not faced with slight differences whose purpose he cannot understand or utilize, would find his buying problems simplified, and he would be able to replace worn out or defective materials far more easily than at present, according to the report.

Sizes are increased by a fixed percentage under the system of preferred numbers. Thus, if six curtain rods from one foot to ten feet in length, inclusive, are needed, the sizes would be 1, 1.6, 2.5, 4, 6 and 10 feet respectively, each being sixty per cent larger than the next smaller. The same numbers could be used for still larger sizes. Thus, for rubber tubing the standard lengths might be 10, 16, 25, 40, 60 and 100 feet. Larger and small numbers are readily obtained by a shift of the decimal point. Likewise, sizes can be spaced close together or far apart, by having 5, 10, 20 or 40 steps between 1 and 10 or between 10 and 100, as the needs of each case may require. The nation-wide adoption of this system would increase the degree of interchange ability among goods manufactured in different parts of the country.

International Office of Home Economics Instruction. This clearing house for information regarding the teaching of home economics in different countries is anxious to complete and keep up to date its files of home economics publications from this country and urges that its name be placed on the mailing list of federal and state bureaus, home economics departments in universities, colleges, and school systems, and other institutions issuing material on home economics and home economics instruction. It would also welcome copies of textbooks and other books on home economics topics.

In cases in which publications can be sent only on the basis of exchange, the International Office can probably arrange to send its *Bulletin* in return. During and immediately after the War this *Bulletin* was not issued for lack of funds, but it is now appearing regularly and is intended to serve as medium of exchange for items and ideas of interest to home economics as they develop in different parts of the world.

Before the War more American publications reached the International Office than is now the case, its name having apparently been dropped from mailing lists during its years of enforced inactivity. Since more

material on home economics is published in the United States than in any other country, it seems particularly unfortunate that it should be so poorly represented in the Fribourg office, and American home economists will be doing their profession a genuine service if they will arrange for all publications possible to be sent there.

Address, Office International d'Enseignement Ménager, Fribourg, Switzerland.

The Des Moines Meeting. The following bare facts about the annual meeting of the American Home Economics Association are inserted as this JOURNAL is going through the press. About twelve hundred persons were registered; the program was considered satisfactory and moved smoothly; the treasurer's books showed a small surplus; the Ellen H. Richards Memorial Committee reported over $25,000 in hand, with a few pledges yet to be paid; the newly-elected officers are: president, Margaret Justin, Kansas State Agricultural College; vice-president, Effie I. Raitt, University of Washington; secretary, Frances Zuill, State University of Iowa.

Mailing of September Journal. Because so many subscribers are "on the wing" the last days of August and the first days of September, the September issue of the JOURNAL OF HOME ECONOMICS will not be mailed in Baltimore until September tenth. See page 619.

RESEARCH

THE CALCIUM OF CHEESE

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The usual figure given for the percentage of calcium in cheese is that found in the third edition of Sherman's "Chemistry of Food and Nutrition" (1) namely, 0.931.[1] The conclusion doubtless too frequently drawn is that approximately this quantity, within ordinary limits of variation, is found in all kinds, regardless of the method of manufacture.

The two types of cheese. On the other hand, it is well known that there are two types of cheeses, "sour milk" cheese such as cottage cheese, and rennet cheeses which include most others; and that the chemical reactions in the coagulation of milk by acid and by rennet are quite different.

Chemical changes brought about by rennet and by acid. These two chemical reactions have long been the subject of laboratory study. The casein in the milk is originally in the form of a calcium salt, calcium caseinate. When rennet acts upon it, the new insoluble product, calcium paracaseinate, contains as much calcium in proportion to protein as does the original calcium caseinate (2). Whether the change is a hydrolytic cleavage of the large molecule (the older view) or merely a change in the state of aggregation of the particles (3, 4) is probably of no importance in this connection, since the proportion of calcium seems to be unchanged.

When, however, an acid acts upon the original calcium caseinate of the milk, the calcium is split off. Free casein is formed as the curd, and the soluble calcium salt of the acid, e.g., calcium lactate, remains in the whey and can be drained more or less completely away from the precipitated casein. This separation of the casein and the calcium by acid has been proved by numerous investigators (5).

To apply these ideas to cheese, therefore, and find whether commercial cottage cheese is really lower in calcium than other common cheeses, one of the authors of this paper (E. S.) made the analyses herein reported.

[1] Sherman's first edition gives different figures for the calcium of cheddar and cottage cheese; namely, 1.1 per cent CaO (0.79 per cent Ca) and 0.3 per cent CaO (0.21 per cent Ca). The lower figure for cottage cheese does not appear in either the second or third editions. The difference in calcium content of the two cheeses is somewhat less than here reported.

The cheese analyzed in this experiment. The cheeses analyzed were three different samples of colored American cheddar, and one sample of white American cheddar; three samples of domestic Swiss and one of imported Swiss; two samples of Dixie cottage cheese, put out by the North Shore Food Products Company, and three of Borden's cottage cheese. The cottage cheeses and one of the cheddar cheeses were bought in the market, and the others were presented, as explained elsewhere.

Cheddar and Swiss are both rennet cheeses. The chief difference in their process of manufacture which has bearing on their calcium content, is the use of partially skimmed sweet milk for Swiss, and slightly soured or "ripened" whole milk for cheddar (3). Both make use of acid-forming bacteria, but the cheddar process uses the "starter" in a slight preliminary period, while the Swiss adds the starter and rennet simultaneously. Therefore we should expect that the calcium of the Swiss cheese would be slightly higher than that of the cheddar—a fact born out by the analyses given below. With each of these varieties, the rennet action is more prominent than the acid action so that both would be expected to have higher calcium than cottage cheese—a fact shown in this study.

Commercial cottage cheese manufacture follows the domestic method more or less closely, though usually a starter of known purity is added to the skim milk instead of letting it sour naturally (6). Sometimes rennet is made use of even in cottage cheese. The manufacturers of both of the brands here studied have informed the authors that they employ rennet.

The water content of a smooth cottage cheese is always much higher than that of the hard rennet cheeses, about 70 to 75 per cent instead of about 33 to 41 per cent. The fat content is almost negligible in cottage cheese and ranges from 25 up to 40 in Swiss and cheddar. With these marked variations in gross composition, it is of course necessary to have some better basis for comparing the calcium of different cheeses than merely the percentage of calcium in the cheese. Protein, as well as the calcium, was therefore determined in the writers' samples.

Methods of analysis. The calcium in the cheeses was determined by the Shohl (7) modification of the McCrudden method, precipitating the calcium from solution of ash as oxalate at pH 4.8 to 5.2, igniting and weighing as calcium oxide. For the nitrogen the usual Kjeldahl Gunning method as described by the Association of Official Agricultural Chemists (8) was employed. Preliminary determinations were run on calcium and nitrogen solutions of known concentration to make sure of the worker's accuracy in the use of the methods.

During the ripening of "green" rennet cheeses, chemical changes take

place which alter the composition somewhat unevenly. Therefore, in order to secure a homogeneous sample, a fairly large portion (roughly, half a pound to a pound of the cheddar and Swiss cheeses) was put through a Climax food grater. The finely ground mass was well mixed and kept in a tightly closed mason jar. Considerable difficulty was

TABLE 1

Calcium and nitrogen of cheeses

NAME OF CHEESE	CALCIUM		PROTEIN (N × 6.38)	
	Number of determinations	Per cent	Number of determinations	Per cent
Swiss:				
Domestic No. 1	9	1.05	3	28.8
Domestic No. 2	7	1.04	6	31.4
Domestic No. 3	8	1.06	6	33.6
Imported No. 4	8	1.03	6	30.9
Average		1.05		31.2
Cheddar:				
Colored American No. 1	8	0.72	6	25.7
Colored American No. 2	9	0.68	7	24.6
Colored American No. 3	5	0.71	4	24.8
White American No. 4	7	0.72	4	25.4
Average		0.71		25.1
Cottage cheese:				
Dixie No. 1	7	0.065	5	13.2
Dixie No. 2	6	0.064	6	14.3
Bordens No. 1	7	0.077	6	11.4
Bordens No. 2	9	0.084	6	11.5
Bordens No. 3	9	0.094	6	11.9
Average		0.077		12.5

Note: After this work was under way, the writers found that Mr. S. R. Robinson, chemist for the Kraft Cheese Company, Chicago, had made similar analyses, some of which he kindly supplied. For example, one of his samples of cheddar cheese contained 0.73 per cent of calcium and 24.8 per cent of protein; and a sample of cottage cheese 0.107 per cent of calcium and 17.2 per cent of protein. His figures for cheddar cheese are almost identical with the writers' and for cottage cheese somewhat higher.

encountered in securing fair samples for analysis, as the water of cottage cheese and the fat of the ground cheddar tend to separate out unevenly on standing. The cottage cheese was always thoroughly mixed with a spoon or a glass stirring rod before removing the samples for weighing.

Results. The results of the analyses, presented in Table 1, bear out the theory of this paper in every case. The two rennet cheeses, Swiss and

cheddar, with 1.05 and 0.71 per cent, have roughly 14 and 9 times as much calcium as the cottage cheese. The calcium is not only higher absolutely in the rennet cheeses but higher in proportion to the protein; that is, for every 100 grams of protein, there are 3.37 grams of calcium in the Swiss, 2.83 grams in the cheddar, and 0.62 gram in the cottage cheeses.

TABLE 2

Summary of calcium content of cheeses

KIND OF CHEESE	CALCIUM	CALCIUM PER 100 GRAMS PROTEIN	100 CALORIES PORTIONS	
			Total weight*	Calcium
	per cent	*grams*	*grams*	*grams*
Swiss	1.05	3.37	23	0.24
Cheddar	0.71	2.83	22	0.16
Cottage, average	0.077	0.62	91	0.07
Dixie	0.065	0.44		0.06
Borden	0.085	0.78		0.08

* From Sherman, (1), page 645.

If the usual figures for the 100-calorie portions of these cheeses are used, namely 23, 22 and 91 grams, and the writers' figures for calcium, the conclusion is reached that the 100-calorie portion of Swiss cheese contains 0.24 gram calcium; cheddar 0.16 gram; and cottage 0.07 gram.

Cottage cheese, therefore, unlike hard rennet cheese, must be regarded as a poor source of calcium, not a rich one, as usually considered.

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BASAL METABOLISM OF YOUNG WOMEN[1]

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Since September, 1926, a series of observations on the basal metabolism of young women has been in progress at the Ohio State University. The group ranges in age from 14 to 18 years with most of the girls 15, 16, or 17 years old. Although the study is still in progress, enough observations have been made to permit tentative conclusions with regard to the 15-, 16-, 17-, and 18-year groups.

Students majoring in home economics and in physical education served as subjects for the 18-year group. The 17-year group also consisted in the main of university girls, while the 14-, 15-, and 16-year groups were comprised principally of girl scouts of Columbus. It will be remembered that the data upon which Benedict's standards for girls of these ages (14 to 18 years) are based were obtained through groups of girl scouts living in and near Boston (1, 2, 3). In the present study several 4-H Club girls, members of a larger group of representative boys and girls who spent a week on the university campus, also served as subjects. All the girls who served as subjects were apparently normal and in good health and were active in school and in other organizations. In the case of the university students medical examinations had been made.

Each girl whose metabolism was to be observed came to the laboratory before breakfast. During a 30- to 40-minute rest period, temperature, respiration, and pulse rate were taken. At the conclusion of the rest period, two ten-minute observations of the oxygen consumption of the subject were made. During these test periods the pulse was counted several times.

The Benedict-Roth respiration apparatus with a Collins chronokymograph was used and the heat production of each subject calculated from the graphic record (4). Calculations based on the oxygen consumption of the subject, using the customary corrections for temperature and barometric pressure, were made. Before and during each observation the routine test for leaks was made. Unabsorbed carbon dioxide was tested for each day. Standing heights and nude weights were taken of each subject and were compared with the Baldwin-Wood standards (5).

All girls who were within the range of 10 per cent above or below the standard of weight for height and age were considered normal. Obser-

[1] Published with the permission of the Director of the Ohio Agricultural Experiment Station.

vations were also made, however, on subjects whose weights deviated from the standard to a greater degree. Two sets of computations were made, one including all the subjects, and the other only those whose weights were normal. The difference between the two sets of computations was so slight that for the purpose of this report the results of all observations are given. The results given therefore include a number of girls who were more than 10 per cent above or below the normal standard.

In this preliminary or progress report the average results from a total of 205 observations on 77 girls are given. In every case duplicate observations were made each time the subject presented herself. Only those

TABLE 1

Average energy production of 77 girls from 14 to 18 years of age

AGE OF SUBJECTS	NUMBER OF SUBJECTS	NUMBER OF OBSERVATIONS	ENERGY PRODUCTION			
			Per 24 hours	Per kilogram per 24 hours	Per centimeter per 24 hours	Per square meter per hour
			calories	*calories*	*calories*	*calories*
14	6	16	1,364	27.38	8.52	37.88
15	14	35	1,388	26.35	8.55	37.25
16	11	29	1,337	25.04	8.37	36.11
17	31	82	1,382	25.41	8.53	36.63
18	15	43	1,365	23.40	8.32	34.80
Average.....			1,372	25.29	8.47	36.41

results which checked within 5 per cent were used. In every case observations were repeated a second and in some cases a third time on subsequent days. In computing the heat production of each subject the lowest readings for each of the successive days on which a satisfactory test was obtained were averaged and this average taken as the basal metabolism. As Blunt says, "A low average checked by repetition is to be regarded as a truer basal than an average of all observations (6)." Table 1, which shows the average results for each age group, represents therefore the average of the lowest figures obtained on two or more days.

So far we have enough observations from which to draw tentative conclusions with regard to the 15-, 16-, 17-, and 18-year groups. For these four ages, calories per square meter steadily decrease with age, with the exception of the 17-year group which shows a slightly higher calorie production than does the 16-year group. Since there are almost 3 times as many subjects in the former as in the latter group it may probably be

assumed that the average for the 17-year group is the more dependable and that more data are needed for the 16-year group before definite conclusions for it are justifiable. By every method of comparison except that of calories per 24 hours the 18-year group are producing less energy than the 14 year group.

Both Blunt (6) and MacLeod (7) report that calories per square meter as well as calories per kilogram decrease in a fairly regular manner with increasing age for girls from 12 through 14 years of age. The Ohio study shows this slowing-up of the metabolic rate as continuing through the years 15 to 18 also in a fairly regular way.

TABLE 2

Average percentage deviations of the individual values for energy production from the average for each age group in studies of 77 girls

AGE OF SUBJECTS	NUMBER OF SUBJECTS	ENERGY PRODUCTION			
		Total	Per kilogram	Per centimeter	Per square meter
14	6	±9.4	±7.3	±7.2	±5.4
15	14	±6.1	±6.6	±5.0	±4.1
16	11	±7.8	±8.8	±7.8	±7.4
17	31	±6.8	±7.8	±5.2	±4.3
18	15	±9.2	±7.4	±8.1	±5.1

On the basis of calories per centimeter there is an interesting agreement among the three groups. Blunt's girls (11 to 14 years) average 8.57 calories per centimeter (6), MacLeod's girls (11 to 14 years) 8.76 calories (7) and the Ohio girls (14 to 18 years) 8.47 calories per centimeter. The total average for the three groups combined is 8.58, while the percentage deviation of the average for each group from the total average of the three groups is 0.1 per cent, 2.2 per cent, and 1.2 per cent respectively.

Table 2 shows the average deviations of the individual values obtained for the Ohio girls from the average for each age group, using the four methods of comparison.

For all 77 subjects the average percentage deviation of individual values for energy production from the average was: ±7.4 on the basis of total calories for 24 hours, or ±7.6 on the basis of calories per kilogram, ±6.1 on the basis of calories per centimeter, and ±4.9 on the basis of calories per square meter.

An inspection of these figures brings out the point that individual deviations from the average decrease in the following order: calories per kilogram, total calories per 24 hours, calories per centimeter, and calories per square meter. Since there is the closest agreement by the two last-

named methods, this would seem to give additional evidence for Blunt's statement that "height and surface area have more to do with rate of metabolism than age or weight directly." (6)

Table 3, which treats the calorie production per square meter per hour statistically, gives evidence that the data for the large group of 17-year olds are more reliable than those for any of the smaller groups and that the average for this group will probably not be changed materially by further observations.

TABLE 3

Average results of study in calories per square meter per hour treated statistically

AGE OF SUBJECTS	ENERGY PRODUCTION				
	Mean	Standard deviation	Coefficient of variation	Probable error of mean	Ratio of probable error to mean
	calories	*calories*	*per cent*	*calories*	*per cent*
14	37.88	2.33	6.2	0.64	1.7
15	37.25	1.96	5.3	0.35	1.0
16	36.11	3.19	8.8	0.65	1.8
17	36.63	2.08	5.7	0.25	0.7
18	34.80	2.39	6.9	0.42	1.2

The heat production for every year was found higher than the corresponding values given by Benedict by every method of comparison (1, 2). The same general decrease in heat production with increasing age is shown, however. Compared with the DuBois standards (8) the heat production of the Ohio group was lower for every age and showed a similar decrease with increasing age.

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BOOKS AND PERIODICALS

NEW BOOKS

Clothing Construction. By CLARA M. BROWN with the collaboration of ADELLA EPPEL, ETHEL R. GORHAM, AURA I. KEEVER, MURIEL G. MCFARLAND and IVA I. SELL. Boston: Ginn and Company, 1927, pp. 236, $1.72.

Although not so designated by the authors, this is in reality a handbook on clothing construction. Beginning with "bands" and ending with "tucks" each of the major problems involved in garment making is considered in alphabetical order. (Who would have surmised that both ends of the alphabet have been slighted by clothing nomenclature?)

Detailed instructions are given not only for performing the ordinary sewing processes but also for such essentials as pattern alteration, the blocking of simple patterns, fitting, and repairing. As is always true in the case of handbooks, it has been impossible to fully develop all of these topics but the advantages of the briefer form have more than compensated for any necessary omissions.

One of the outstanding features is the authors' apparent realization that, contrary to some of the traditions in this field, there is often more than one correct way of producing a desired result in sewing. Accordingly, in connection with most of the discussions dealing directly with specific sewing processes, various methods are given and their appropriate use suggested. Many short cuts and other practical hints are also included which will delight the inexperienced seamstress.

Throughout the book no words have been wasted. The discussions are beautifully clear, concise, and very much to the point. There is the definiteness and even terseness of an engineering handbook which is most refreshing in view of the many lengthy treatises which have been published on clothing construction. The profusion of excellent diagrammatic drawings helps to make the explanations clear and, happily, both these and the half tones have been so carefully selected that changing styles will not affect them.

Those of us who are asked so often to recommend a small usable volume on sewing which is worthy of a place on the homemaker's bookshelf have particularly welcomed this book. Its encyclopedic style will appeal greatly to this class of readers who always turn to books on clothing in search of definite answers to specific problems. Unfortunately we have had very few to meet this need. The student will appreciate it as a most convenient reference in the trying days when a detailed knowledge of clothing construction is being accumulated. If we dared, we might also prophesy that in the secret places of her office many an experienced teacher will often scan her copy in order to refresh her knowledge on these same details.

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Hows and Whys of Cooking. By EVELYN G. HALLIDAY and ISABEL T. NOBLE. Chicago: University of Chicago Press, 1928, pp. 179, $2.00.

The French have long regarded cookery as an art, and have recently given it official recognition as such by making a place for it in the Salon d'automne, along with painting, sculpture, and the others. We in American home economics have not been content to recognize its artistic side alone. We have tried to learn why certain things happen, and upon these "whys" to build clear and simple directions so that one may become a good cook without a long period of apprenticeship, and so that food may be at its best from the standpoint of the newest discoveries in nutrition. With these aims, an increasing number of good pieces of research have been

carried on in the experimental cookery laboratories of the country. But there has been no one book to which the teacher might turn for a clear presentation of some of the scientific principles involved in various cookery processes. Since Miss Halliday and Miss Noble have presented material of this type, their book will be welcomed by all teachers of cookery—and the more so since it is, in addition, delightfully written.

On the basis of their research work and teaching in the department of home economics of the University of Chicago, the authors have set forth the "whys" and the "hows" of some of the fundamental cookery processes—the cooking of vegetables and the making of muffins, cakes, biscuits, pastry, candy, and ice cream. They have stated some of the problems to be solved, for example, the preservation of color and flavor in the cookery of vegetables and the control of crystallization in the making of candy. They have brought their scientific training to the analysis of these problems and shown the reasons why certain things occur. Finally they have given working directions, the "hows," for preparing the food. Only those who have worked in experimental cookery can realize the efforts and time behind such an undertaking. No wonder this volume is the first of ts kind! Every recipe, every simple direction is the result of many trials and perhaps weeks of work.

The illustrations are one of the book's best features. Here are pictures of muffins with humps and knob-like projections on the top, and with long tunnels in the interior, which can be used as warnings of what will happen if the zealous student overbeats her batter. No less useful are the pictures of muffins as they should be. Every teacher of cookery will agree that one of her most difficult tasks is to guide her class to an appreciation of what constitutes a good product when those which so many of them have seen or eaten have been rather indifferent in quality.

For lessons on sugar cookery few laboratories are so equipped that a large class can be shown sugar crystals under the microscope. Yet this is one of the best ways of demonstrating the principles involved and the reasons for cooling certain types of candy before beating. Since the pictures of sugar crystals in this book are especially clear, it can take the place of a demonstration with the microscope and thereby make the teaching of candy making easier.

Sometimes the cook finds herself on the horns of a dilemma. For example, in the cooking of vegetables shall she strive to preserve color, flavor, or nutrients, if all can not be most effectively saved by one method? Not all persons will make the same choice. For example, the reviewer would dissent from the choice of the authors in the cooking of peas and spinach because she prefers to use less water than they recommend. But that fact does not detract materially from the usefulness of the book. Since the authors have made a clear presentation of the principles and the "whys," a person can work out her own "hows," if she so chooses, and have an intelligent basis for her choice.

The authors are modest in offering their material: "Cooking processes are really most complicated and involve a knowledge of chemistry, both organic and physical; physics; botany; bacteriology; and, indeed, some phase or other of practically all the natural sciences. As a consequence, complete and fully adequate explanations will come only after much more experimental work has been done by those trained in many sciences."

There remain many "whys" to be learned. Meanwhile in this book the results of research along several lines have been summarized and clearly presented. The teacher will find the material well adapted to her use; the research worker will be glad to have this summary as a foundation for further study. Miss Halliday and Miss Noble have made a real contribution to the field of cookery.

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Dietetics for the Nurse. By I. STEWART London: The Scientific Press. Faber and Gwyer, Ltd., 1928, pp. 200, 4s. 6d.

A simple, direct discussion based on the author's lectures to nurses in Scotch training

schools. Includes the principles of dietetics, the uses of food in the body, food values, diet in disease, and recipes for invalid cookery, some of the latter pleasantly varied from those usually found in American handbooks. In general accord with scientific facts, though certain minor statements in the earlier sections differ slightly from those now generally accepted.

Fundamentals of Sewing. By CARRIE CRANE INGALLS. Milwaukee: The Bruce Publishing Company, 1928, pp. 181, $1.60.

A "practical, detailed treatment of the fundamentals of sewing," intended for beginning students in secondary and vocational schools, by a college and high school teacher; an enlargement of the author's "Textbook on Domestic Art" published in 1911. Gives concise instructions for all necessary sewing processes from plain to ornamental stitches and from simple hems to gussets and elaborate finishes, including the use of the machine and its attachments. Illustrated from clearly-marked drawings.

Studies in Ethics for Nurses. By CHARLOTTE A. AIKENS. Second edition, thoroughly revised. Philadelphia: W. B. Saunders Company, pp. 319, $2.50.

The revision of a standard discussion of the ideals of character and service which a nurse holds and which "will greatly influence her practical work." Intended also to call attention to "the need of more careful ethical teaching and more careful study by nurses of the ethical principles which should govern a life." Of interest to members of other professions concerned with problems of professional ethics.

Elementary Bacteriology. By JOSEPH E. GREAVES and ETHELYN O. GREAVES. Philadelphia: W. B. Saunders Company, 1928, pp. 506, $3.50.

The history and fundamentals of bacteriology, pathogenic and non-pathogenic, presented to serve as a textbook for elementary students and also as a manual for various types of workers, including home demonstration agents and home economists.

American Universities and Colleges. Edited by DAVID ALLAN ROBERTSON for The American Council on Education. New York: Charles Scribner's Sons, 1928, pp. 994, $2.50.

An invaluable and convenient reference book on the resources of higher education in the United States. Part 1 summarizes in general terms the organization and interrelation of the various types of institutions, while Part 2 presents in systematic arrangement the essential facts regarding the organization, endowment, equipment, teaching, and student bodies of all the institutions on the accredited list of universities or colleges drawn up by the American Council on Education in 1927.

Educational Yearbook of the International Institute of Teachers College, Columbia University, 1926. Edited by I. L. KANDEL. New York: The Macmillan Company, 1927, pp. 596, $3.50

The third book of its kind, issued by the International Institute; includes reports of the general educational status in Austria, England, Estonia, Finland, France, Germany, Greece, Irish Free State, Northern Ireland, Newfoundland, Poland, Sweden, Switzerland, and the United States, each written by a recognized authority, and discussions of the special problems of secondary education in England, Germany, and the United States. A convenient reference volume for those interested in European educational developments.

Psychology of Infancy and Early Childhood. By ADA HART ARLITT. New York: McGraw-Hill Book Company, Inc., 1928, pp. 228, $2.00.

A textbook for use in courses in child development in colleges and universities by a professor of child care and training in the University of Cincinnati who has herself contributed largely to the study of the preschool child. The problems of children of that age are logically presented, including inheritance, common innate equipment, activities, tendencies and emotions, habit formation, sensation and perception, mem-

ory, imagination, thinking process, forms of expression, social attitudes and personality development, and individual differences. A brief list of references and class exercises are given with each chapter.

The Education of the Modern Boy. By ALFRED E. STEARNS, SAMUEL S. DRURY, ENDICOTT PEABODY, R. HEBER HOWE, JR., W. L. W. FIELD, and WILLIAM G. THAYER. With introduction by DAVID M. LITTLE. Boston and New York: Houghton Mifflin Company, 1928, pp. 271, $3.00.

A collection of papers by schoolmen from leading private schools for boys. Of particular interest to home economists is the one on home influences in which Alfred E. Stearns of Phillips-Andover Academy discusses the commonly-accepted opinion that home associations no longer play their former part in the guidance of children, with emphasis on the fact that this condition is nowhere more prevalent or its results as more disastrous than in the so-called higher circles.

The Life of Rachel McMillan. By MARGARET MCMILLAN. London: J. M. Dent & Sons, Ltd., 1927, pp. 203, 6s.

The life and work of the founder of the English nursery school movement, of interest to all students of the education of preschool children and suggestive to Americans by the points of similarity and contrasts it reveals between developments in England and the United States.

Dolly Madison, the Nation's Hostess. By ELIZABETH LIPPINCOTT DEAN. Boston: Lothrop, Lee & Shepard Co., 1928, pp. 250, $3.00.

A carefully written book not only about Dolly Madison but also about the personalities, manners, and customs with which she came in contact in the various parts of her interesting life. Good reference reading in American social customs and especially interesting for those who enjoy the city of Washington.

Nutrition. By WALTER H. EDDY. Baltimore: The Williams & Wilkins Company, 1928, pp. 237, $2.50.

The Teaching of Home Economics. By CLARA M. BROWN and ALICE H. HALEY. Boston: Houghton Mifflin Company, 1928, pp. 395, $2.00.

Dramatized Salesmanship. Playlets produced by the department of education of L. Bamberger & Co., Newark, N. J. Edited by GENEVIEVE GORDON and CLARICE RUNYAN YOUNG. New York: Textile Publishing Company, 1928, pp. 80, $2.00.

ABSTRACTS FROM PERIODICALS

CHILD DEVELOPMENT AND PARENTAL EDUCATION

EDUCATIONAL METHODS

Hollingworth, Leta S. The discipline of highly intelligent children. *Children, Mag. for Parents* **3**, June, 19, 41–42 (1928).

"Swift and just correction for wrongdoing, honest reward for desirable behavior, straightforward dealing—these will secure discipline with bright children in the majority of cases."

Child development abstracts and bibliography. Vol. 2, No. 2, April, 1928. Committee on Child Development, National Research Council, Washington, D. C.

With this issue, announcement is made that the regular bi-monthly publication will be continued on a subscription basis. The material presented is selected from current issues of twelve scientific journals and is invaluable to research workers in the field of child development. This issue of 100 mimeographed pages contains over 300 abstracts, with author and subject indexes.

Lehman, H. C. and Witty, P. A. Sex differences in reference to reading books, just for fun. *Educ.* **48**, 602–617 (1928).

Data obtained by the authors in a study of the place of reading for fun in the play activities of large numbers of boys and girls between 8½ and 22 years of age are presented and discussed. Tables show the rank of this activity among 200 others as to (1) relative popularity, (2) time consumed, (3) percentage of children who ranked it as one of three favorite activities, (4) those with whom it had consumed more time than any other on the list, (5) the age level of these later, and (6) average age equivalents for boys and girls in certain grades, while two graphs present the composite results of six investigations expressed as the percentage of individuals of various age levels who ranked reading for fun as one of three favorite leisure time activities and of those who spent more time at it than at any other of the 200 play activities listed. Marked sex differences are shown, girls of practically all ages, indicating a much greater fondness for, and time spent at book reading than boys.

Jones, Alice M. A vocabulary study of children in a foreign industrial community. *Psychological Clinic* **17**, 13–21 (1928).

Tests of 552 children, the entire school population of a foreign industrial community, by the Stanford Binet system which resulted in extremely low scores, show that because of his vocabulary limitations the foreign child may suffer great injustice in such tests. If this test is to be used in a minimum psychological examination special norms for each foreign language group must be established.

Groves, Ernest R. The child and the home. *University of North Carolina Extension Bulletin, Vol.* **7**, No. 11, 24 pp., March (1928).

A valuable bulletin of references "prepared for parents, teachers, club women, and others who wish a brief but serviceable list of readings in order to carry on individual or group study of child and family problems." It is divided into eight parts: (1) the child, by far the longest section; (2) parenthood; (3) family problems; (4) marriage; (5) reading courses; (6) articles on the child; (7) articles on the family; (8) articles on marriage. A publisher's directory is appended. Very brief annotations describe the references given, all of which are well chosen.

MENTAL HYGIENE

Richards, Esther Loring. Protecting the mind of childhood. *Child Health Bull.* **4**, 63–70 (1928).

Psychology has contributed to mental health by demonstrating (1) the variations in intellectual capacity, manual skills, and capacity to endure strains present in children and the need to accept these limitations;

(2) the value and means of establishing good emotional habits; and (3) influence of parental example and home environment upon the child.

Arlitt, Ada Hart. Training leaders in parent education. *Childhood Educ.* **4,** 461–466, (1928).

A discussion of the qualifications and training necessary for leaders in parent education.

Magee, Charity Mason. Smother love. *Child Welfare Mag.* **22,** 461–464 (1928).

An exposition of unwholesome ways of expressing mother love.

Lurie, Louis A. Mental hygiene in home and in school. *Hygeia* **6,** 275–277 (1928).

An excellent popular discussion.

Adler, Alfred. The cause and prevention of neuroses. *J. Abnormal Soc. & Psychol.* **23,** 4–11 (1928).

The author holds that every individual has three problems to meet: (1) to be accepted by others, (2) to find a place in which he feels himself to be useful, and (3) to unite himself as a partner with one of the opposite sex. Children normally feel their inferior position and struggle to achieve the foregoing aims. When handicapped further by organic inferiority or delicacy, by "spoiling" with too great dependence upon others, or by the feeling that they are unwanted they fail to solve their life problems and fall back upon neurotic evasions. These may persist through life and are shown in lack of confidence, defensive and hostile attitudes, excessive demands for satisfaction, attempts to dominate, all justified by rationalizations. Successful treatment will change the individual's attitude toward life.

Lowrey, Lawson G. Competitions and the conflict over difference. *Ment. Hyg.* **12,** 316–330 (1928).

A discussion of the importance of the instinctive drives for self assertion and group recognition in their relation to the behavior problems of children. The author summarizes: "Differences, real or imagined, which the individual sees or feels between himself and his own ideals or what he conceives to be the ideal of the group, occurring in any aspect of physical, mental, or social life, may and do produce profound emotional conflicts and all the various types of disturbing behavior, the latter representing an attempt at compensation such that the individual will have a satisfied ego and a feeling of security in the group."

Dexter, Elizabeth H. Treatment of the child through the school environment. *Ment. Hyg.* **12,** 358–365 (1928).

The school child-guidance clinic is presented as an effective agent in treating obvious personality maladjustments as well as discovering incipient difficulties.

Mohr, George J. Emotional factors in nutrition work with children. *Ment. Hyg.* **12,** 366–377 (1928).

It is shown that the emotional state of the individual has a direct influence upon the physiological processes of nutrition and may modify them significantly. Proper methods of feeding have an importance beyond direct nutritional significance. Since nursing depends upon an emotional relationship between mother and child it may be utilized to establish sound habits, but if badly handled it results in feeding problems and is also the starting point for neurotic behavior in other situations. Such conditions are difficult to correct but are readily preventible, hence mothers should early be taught their significance.

Rademacher, E. S. Treatment of problem children by means of a long-time camp. *Ment. Hyg.* **12,** 385–394 (1928).

An account of a summer camp organized to care for thirty problem boys by mental hygiene methods, of some of the problems met, and the satisfactory results obtained.

Young, Kimball. Recent trends in child psychology and child education. *Teachers J. and Abstract* **3,** 316–317 (1928).

The author holds that interest in child education has passed beyond physical wel-

fare and mental testing and now centers in the child's emotional life, especially as this affects personality adjustment. School entrance presents three emotional-social problems, the break from the mother and adjustments to both teacher and other children. Tests for emotional adjustment and study of complete case histories are necessary to understand and meet these problems. References to publications on the personality problems of children are listed.

PHYSICAL DEVELOPMENT

Batchelor, W. C. Backyard play equipment. *Child Welfare Mag.* **22,** 479–492 (1928).

This is the first installment of a serial republication of "Home Play," originally issued by the Playground and Recreation Association. Specifications, with directions and illustrative cuts, are given for constructing sand box, swing, horizontal bar, see-saw, and horizontal ladder.

Loomis, Alice Fisher. The health of your child in high school. II. Physical foundations of success. *Child Welfare Mag.* **22,** 483–486 (1928).

A yearly health examination is advised, and the special adolescent problems of exercise, rest, and food habits are discussed helpfully. A short bibliography is appended.

Pope, Alton S. The control of communicable diseases in schools. *Elementary School J.* **28,** 748–759 (1928).

An authoritative discussion of the subject, to which are added summaries of the outstanding early symptoms of the most common communicable diseases, with the regulations used for their control in Chicago.

Mayo, Harriet. Tan—a mysterious mechanism for absorbing energy from the sun. *Good Health* **63,** June, 18–19, 49 (1928).

A discussion of the benefits of heliotherapy for children with the technic of the sun bath as given by Dr. Rollier, the Swiss specialist.

Lima, Margaret. Racial differences in intelligence in Minnesota. *J. Abnormal Soc. Psychol.* **23,** 68–71 (1928).

Intelligence tests were given all school children in seven towns and the racial stock of both father and mother of each child was noted, from which ten nationalities were ranked in order of their median intelligence as follows: English, Danish, Scotch, Swedish, Norwegian, Dutch, Irish, German, Finn, French.

H. R. H.

FOOD AND NUTRITION

Shradey, J. H., Ewing, C. L., Koeff, F. A., and Conn, L. W. Sanitary quality of some commercial milk powders. *Am. J. Hyg.* **8,** 386–397 (1928).

Bacteriological and chemical analyses of 100 samples of milk powders from widely scattered sources collected in Baltimore, Maryland, by food inspectors of the health department gave indication, particularly in a definite correlation between bacterial count and ammoniacal nitrogen, of excessive bacterial contamination in some of the samples before manufacture. "To the extent that the above samples represent the present condition of the milk powder industry, it has been shown that the milk powders are not handled in as sanitary a manner as experience has taught is possible for even a poorly controlled municipal milk supply."

Shinoda, Fujimaki and Saiki, S. [The vitamin content of Japanese food products.] *Bul. soc. Hyg. aliment.* **15,** 524–530 (1927).

Among the materials tested were preserved prunes, which are stated to be deficient in antineuritic and antiscorbutic vitamins; radishes, which are fairly rich in vitamin C, particularly in the peelings; radish leaves, rich in vitamin A; buckwheat flour, containing a considerable amount of the antineuritic vitamin but only insignificant traces of vitamin A; and oysters and dried eels, rich in vitamin A. One gm. daily of fresh oysters and 0.1 gm. daily of dried eels were

said to cure xerophthalmia in young rats on a diet deficient in vitamin A.

Lewis, J. P. and Whitcomb, W. O. Influence of size and shape of pan on the baking test. *Cereal Chem.* **5**, 146–158 (1928).

The desirability of adopting some uniform type of pan for laboratory baking tests is emphasized by this comparison of loaves of bread made from seven flours varying from hard to extremely soft, and each baked in seven pans of varying sizes and shapes. The volume of the loaf and its quality as measured by color and texture were most noticeably affected by the type of pan. The area of the top of the pan was more closely correlated with loaf volume than any other characteristic. The largest loaf from the strong flours was baked in the commercial type of pan with sides cut very low and from the soft flours in pans with medium depth. Bread of the best quality was produced in shallow pans, although differences in quality were not so marked as in volume.

Blish, M. J. et al. Standard experimental baking test. *Cereal Chem.* **5**, 158–161 (1928).

A description of the standard fixed procedure for experimental baking tests which has been approved by the committee on standardization of the experimental baking test of the American Association of Cereal Chemists following the suggestion of the chairman of the committee (see J. HOME ECON. **19**, p. 651 (1927)) and a careful study of the proposed method in several laboratories.

Sweetman, M. D. and Palmer, L. S. Insects as test animals in vitamin research. I. Vitamin requirements of the flour beetle, Tribolium Confusum Duval. *J. Biol. Chem.* **77**, 33–52 (1928).

The confused flour beetle, T. confusum, is thought to be an extremely sensitive agent for the detection of the vitamin B complex, the adequacy of a ration as a source of the complex being measured by the length of the larval period under standardized constant conditions. The technique of the method is described with typical results. It is thought capable of detecting amounts of vitamin B-containing materials as small as 0.5 per cent of the ration.

Evans, H. M. and Burr, G. O. A new differentiation between the antineuritic vitamin B and the purely growth-promoting vitamin B. *J. Biol. Chem.* **77**, 233–240 (1928).

The antineuritic vitamin concentrate tikitiki extract (a concentrated preparation of rice polishings) is shown to be almost devoid of the "purely growth-promoting vitamin B" (vitamin G).

McCollum, E. V., Rask, O. S., and Becker, J. E. A study of the possible rôle of aluminum compounds in animal and plant physiology. *J. Biol. Chem.* **77**, 753–768 (1928).

The disputed question of the biological and dietary significance of aluminum has been made the subject of an investigation in which various plant and animal tissues were examined for the presence of aluminum by spectrographic analysis and rats were fed from weaning to maturity on diets containing aluminum chloride or an aluminum-containing baking powder in amounts furnishing about 600 parts per million of metallic aluminum.

None of the materials tested showed the presence of aluminum except rat skin, intestines, and lungs which contained about 0.5 parts per million, an amount easily accounted for by contamination from dust in the air. The behavior of the aluminum-fed rats in growth, reproduction, and appearance of the organs on autopsy was entirely normal. Aluminum was found in the intestinal tracts of some of the rats but in amounts less than 1 part per million. The livers, kidneys, spleens, ovaries, and testes were aluminum-free.

The authors' tentative conclusions are that aluminum is not a constituent of either plant or animal matter, that aluminum compounds when present in the diet are not absorbed from the stomach or intestinal tract and do not enter into combination with them, and finally that "aluminum compounds in the diet in concentrations as

high as 600 parts per million of the element aluminum exert no noticeably deleterious action on growth, reproduction, or general well-being as judged by external appearance and autopsy."

Waddell, J., Steenbock, H., Elvehjem, C. A., and Hart, E. B. Iron in nutrition. V. The availability of the rat for studies in anemia. *J. Biol. Chem.* **77**, 769–775 (1928).

In continuation of the series of studies on iron in nutrition (see J. HOME ECON. **19**, 338, 1927) the authors have found it possible to induce profound anemia in young rats in from 6 to 8 weeks by feeding them only whole cow's milk ad libitum. During this time the hemoglobin content of the blood is reduced from 10.83 gm. per 100 cc. to 4 gm. or less. The ease with which anemia is thus produced in the first generation is attributed in part to the fact that the ration of the stock females is carefully controlled, containing no table scraps or vegetable refuse, and including considerable quantities of whole milk.

Waddell, J., Elvehjem, C. A., Steenbock, H., and Hart, E. B. Iron in nutrition. VI. Iron salts in the correction of anemia. *J. Biol. Chem.* **77**, 777–795 (1928).

With the use of rats rendered anemic as described in the foregoing paper it has been demonstrated that pure inorganic salts (chloride, sulfate, acetate, citrate, and phosphate) when fed in amounts furnishing 0.5 mg. of iron per rat per day are incapable of increasing materially the hemoglobin level, but that the ashed residues from dried beef liver, dried lettuce, and yellow corn or the acid extracts of these materials when fed at such a level as to introduce the same amount of iron as that furnished by the iron salts, are very effective in curing the anemia.

Hart, E. B., Steenbock, H., Waddell, J., and Elvehjem, C. A. Iron in nutrition. VII. Copper as a supplement to iron for hemoglobin building in the rat. *J. Biol. Chem.* **77**, 797–812 (1928).

An explanation of the results obtained in the preceding study has been found in the discovery that copper in minute amounts is capable of supplementing ferric chloride, in itself ineffective, for the regeneration of hemoglobin. Following this it was demonstrated that the ash of liver extract prepared by the method of Cohn et al. contains 0.016 per cent of copper. These results, pointing to the necessity of copper for the effective utilization of iron in hemoglobin building, are thought to emphasize the necessity for the intensive study of the action of small amounts of inorganic elements in nutrition.

Dickins, D. A study of food habits of people in two contrasting areas of Mississippi. *Mississippi Agr. Expt. Sta. Bul.* **245**, pp. 52 (1927).

This is a report of a study of the adequacy of the diet of the inhabitants of the brown loam and short-leaf pine areas of Mississippi as determined by analyses of food-consumption records obtained by the inventory method from 38 families in the brown loam and 37 in the short-leaf pine area. Figures adopted as standard and corresponding averages for the two areas respectively were calories, 3000, 3307, and 3139; protein, 75, 82.140, and 77.198 gm.; phosphorus, 1.3, 1.431, and 1.275 gm.; calcium 0.69, 1.181, and 1.058 gm.; and iron 0.15, 0.0126, and 0.0122 gm. respectively. These data show that the diet was slightly more satisfactory from the standpoint of everything but iron in the more fertile and consequently more prosperous brown loam area; and that in comparison with established standards the diets furnished slightly more than actually necessary of calories, protein, calcium, and phosphorus but were markedly deficient in iron. From a general standpoint the diets were thought to furnish a sufficiency of vitamins A and B but to be deficient in vitamin C during the fall, winter, and early spring. The estimated cash values of the food consumed varied from 19 to 56 cents per man per day and averaged 38.13 cents for the brown loam and 33.75 cents for the short-leaf pine area. The average percent-

ages of the different food groups furnished by the farm were: Meat and fish 64, fruit 73, vegetables 84, milk and milk products 96, and poultry and poultry products 98 per cent.

Rose, W. G. Does the amount of food consumed influence the growth of an animal? *Science* **67**, 488, 489 1928.)

A reply to the paper of Mitchell under the same title, abstracted in J. HOME ECON. **20**, 369 (1928).

Hunt, C. H. Vitamin B. *Science* **67**, 556 (1928).

A brief note suggesting the possibility of a third factor, thermostable and insoluble in water, in the vitamin B complex.

Smith, S. L. Vitamin B—a question of nomenclature. *Science* **67**, 494–496 (1928).

A summary and discussion of the various terms which have been proposed for the heat-labile and heat-stable factors of vitamin B. (See J. HOME ECON. **20**, 241, (1928.)

S. L. S.

TEXTILES AND CLOTHING

Contributed by the staff of Division of Textiles and Clothing, Bureau of Home Economics, United States Department of Agriculture

Roberts, Herbert C. Testing of wetting-out agents. *Am. Dyestuff Reptr.* **17**, 339 (1928).

Wetting-out agents are of importance in connection with the uniform penetration of fabrics by such substances as dyestuff, mercerizing and carbonizing solutions. They include the sodium salts of propylated naphthalene sulphonic acid, hydrogenated hydrocarbons, soluble oils, sulphonated oils of varying degrees of sulphonation, and combinations of the latter products and solvents. All owe their efficiency as wetting-out mediums to their property of lowering the surface tension of aqueous liquids.

The methods of studying this property of reagents as devised by various workers are reviewed. Of them the writer considers the best to be his modification of the Auerbach method. The latter, as described in the *Melliand Textilberichte* for 1926, uses raw wool cloth specially fulled to produce a uniform condition of surface and treated to contain a uniform amount of air and moisture. Pieces 4 cm. square are immersed in 1 liter of the solution to be tested, and the seconds necessary for complete immersion are measured with a stop watch. The writer's modification of the Auerbach method is intended to adapt the latter for use as a mill test. It employs as test samples a skein of a specified number of strands or a piece of cotton warp cut into sections about 2 inches long with each section knotted in the middle to hold all the strands together. These samples are dropped simultaneously into the solutions under investigation. Laboratory valuation of wetting-out agents done by the above method have been checked with the actual mill wetting-out test on numerous sets of light-weight cotton knit goods.—A. E. H.

Keyworth, C. M. Research in the textile industry. *Chemistry Industry* **47**, 360–364 (1928).

A summary of the organization and the scope of the work of textile research associations which are conducting work of importance to industry as a whole is presented, including the possibilities of work with silk, wool, cotton, linen, and jute fibers, and of research along biological, botanical, chemical, physical, and technical lines.

The Linen Industry Research Association investigates such problems as the development of a strain of flax to be grown in Ireland, improvements in bleaching and dyeing, and the development of a scientific method of retting flax.

The work of the British Research Association for the Woolen and Worsted Industries begins with the sheep itself and continues through the spinning and dyeing processes. Its chemical laboratory has developed methods for estimating soap, oil, alkali,

and acid content, has studied the sulfur content of wool, and its absorption of acids and alkalies. The physical laboratory investigates such problems as those of regain, thermal conductivity, electrification, elasticity, and swelling. The biological department has studied the use of ultra-violet light in its detection of mildew and the analysis of textile materials, as well as other problems connected with mildew.

The British Silk Research Association reports laboratory work in degumming, carbonising, the action of reagents on silk, the electrical properties of silk, tin weighting, and the examination of yarns and fibers, as well as surveys of the literature on various related topics.

The British Cotton Industry Research Association has done much fundamental work on the individual cotton hair. It is also carrying on investigations on mildew fungi and antiseptics, on machinery used in the industry, on standardization of regain, on the processes of steeping, scouring, bleaching, and dyeing, and other phases of the manufacture of cotton goods.

The British Launderers' Research Association is working on the improvement of laundrying methods. Through its efforts the life of fabrics has been greatly increased, in some cases as much as 25 per cent.

In addition, examples are cited of textile research in universities and industries, and by private workers.—R. K. W.

Popin, M. E. Some facts about textile processing in clothing manufacture. *Clothing Trade J.* **31**, 73 (1928).

A scientific treatise on various phases of the men's clothing industry. Some of the important characteristics of fabrics, chiefly those relating to shrinkage, and the sponging processes, including wetting-out, London shrinkage, steaming, steam sponging, steam refinishing, and decatizing, are explained and an application of each process is clearly presented.

It is pointed out that moisture content and heat are shown to have a determining influence on the area stability, handle, and finish of a fabric, and that these factors are, therefore, of primary importance in the operations of sponging and shrinkage. The ideal process ensures "moisture regain" and a finish characteristic of the material. Recently a sponging machine has been perfected in which the porosity of the steaming cylinder is greater than the aggregate area represented by the interstices of a fine fabric. It operates at low pressure, does not scorch cylinder ends, and sponges uniformly. It is equipped with devices for exhausting residual moisture and for automatically controlling the amount of air drawn through the fabric in cooling according to the resistance offered by the fiber and weave.

When, after sponging, shrinking, and refinishing, a fabric is conditioned either by natural exposure or by running the goods through water-soaked belt conditioners, so that "moisture regain" has restored its normal water content, it may be considered in proper condition.—M. C.

Carter, Clifford R. Bleaching and dyeing coir. *Dyer, Calico Printer* **59**, 181 (1928).

Coir, or cocoanut fiber, is a coarse, wavy, and serrated fiber of dense structure obtained from the husk surrounding the hard shells of the cocoanut. Its lightness, strength, and elasticity render coir important for making tow ropes. The fibers are improved and strengthened by immersion in sea water, although they soon rot in fresh water. Coir is also used in mattresses and in the manufacture of coarse brushes, and doormats and matting used for lobbies and passages. Coir yarns and also fibers come from Ceylon, Cochin, China, Angengo, Allapat, Calicut, Beypore, and Tuilandy. In bleaching, the finer fibers must be separated from the coarser, since the former require weaker solutions and a shorter time of soaking. The procedures for bleaching fine and coarse fibers, and for dyeing coir black, red, or maroon with sappan and for dyeing it green with indigo are given.—R. K. W.

Moffat, J. Uneven dyeing. *Dyer, Calico Printer* **59**, 182–183, 206–207 (1928).

The author points out numerous factors which may cause uneven dyeing in the mill. Impurities in the water are first considered. Iron is described as the worst of these,

as little as .04 grain per gallon being sufficient to hinder the action of certain dyes. To test for iron, a liter of the water is evaporated to dryness and then dissolved in a few drops of HCl, after which a drop of 2 per cent solution of potassium ferrocyanide is added; the formation of a blue color shows the presence of iron. In general acid dyes are less affected by iron than are the chrome colors.

Alkali used in scouring is another frequent cause of uneven dyeing, especially when the alkali is in the form of powder rather than in solution. The migration of the alkali over the yarn while it is damp after scouring streaks the dye, the development of bacteria on the more alkaline parts affecting the shade produced. These difficulties are overcome by ammonium sulphate, which neutralizes the residual alkalinity.

The temperature at which a dye goes on the fiber is another source of difficulty. The optimum temperature for an even effect varies with individual dyes, and greater knowledge on this point would help to prevent uneven dyeing. Moreover, certain types of machines may allow a flow of cold air which may affect the results with dyes susceptible to changes in temperature, or the choking of steam perforations by loose fibers and dirt may produce an uneven temperature in the dye bath and thus cause an uneven distribution of the dye.

Hard and soft variations in the texture of the yarns themselves are a cause of difficulty beyond the control of the dyer. Certain of the oils put on wool yarns to prevent friction sometimes cause uneven dyeing. The different wools themselves dye differently and should not be mixed.

Uneven dyeing is also due to the effect of the levelling agents which lower the surface tension and thereby facilitate wetting and penetration. Glauber's salt, used either alone or with the levelling agents, helps materially in producing an even distribution of the dye, especially with acid chrome colors. —E. C. P.

Heuthwaite, J. Stephen. The production of multi-colored effects. *Dyer, Calico Printer* **49**, 184–185 (1928).

Dyed effects in two or more colors have usually been produced in wool materials by combining separately-dyed materials in either spinning or weaving. The various operations necessitated by that method take time and lead to waste of material. Hence efforts have been made to produce multi-colored effects by altering the absorptive capacity of part of the wool used, as through mordanting, chlorination, or treatment with formaldehyde, mixing this prepared wool with ordinary material, and dyeing the fabric only in the final stage. Multi-colored effects can be obtained also by wool printing as in the Vigoureux method, which consists of three operations, printing, steaming, and final washing.—R. K. W.

"The consumer is wearing—." *Women's Wear Mag.* **10**, No. 8, 42; and **10**, No. 10, 26 (1928).

The first and second of a series of articles in which the consumption of merchandise is to be presented from the "average" consumer's point of view with preferences graphically presented. The analytical methods to be followed are said to be more in keeping with the ideas used in modern chain and department store merchandising than the "hunches" and "general impressions" on which dependence was formerly placed.

The first article discusses types of daytime dresses which the woman of moderate means has adopted for shopping and business wear, and indicates graphically the leading fabrics, colors, and styles as indicated by the "consumer count" method.

The second article shows that black leads for coats, navy for suits, and gray for ensemble costumes in spring garments bought by women of moderate means, and reports a two-week survey of preferences in millinery materials and colors.—M. C.

MISCELLANY

World Court, 1922–1928. This "yearbook of the permanent court of international justice" by Manley O. Hudson brings together in convenient form for reference the developments and essential documents in the history of the World Court. The pamphlet may be purchased from the World Peace Foundation, 40 Mt. Vernon Street, Boston, for 30 cents a copy.

Medical Discoveries of 1927. Twenty-two important additions to medical knowledge are described by George E. Coleman of the William Hooper Foundation for Medical Research, in a recent pamphlet of the American Association for Medical Progress, 370 Seventh Avenue, New York City.

Survey of Credit Business. The United States Department of Commerce announces that a survey is to be made of the $24,000,000,000 retail business done on credit in the United States. This is undertaken at the request of the National Retail Credit Association and is to be done through the Division of Domestic Commerce, Dr. Julius Klein, director. The principal subjects to be studied are cash transactions, open credit, and deferred or instalment payments and the hope is that the reliable information thus obtained will settle various questions regarding the ultimate effects of credit, lessen losses associated with present credit transactions, and stabilize business. A preliminary survey is to be made immediately in Baltimore.

Wholesale prices of Commodities. According to weighted figures issued by the United States Department of Labor for April, 1928, the purchasing power of the dollar for 550 commodities at wholesale was 102.7 per cent of its power in 1926. Goods whose prices have fallen most notably are silk and rayon, fuel and lighting, paint, drugs and pharmaceuticals, rubber, and automobile tires. Notably higher in price are hide and leather products and cattle feed.

Men on Marriage. A study course, "Making the most of marriage," has recently been given at the Omaha, Nebraska, Y. M. C. A. under the direction of the head of the sociology department at the University of Omaha, says the *Survey*. It included talks on various phases of the subject from the biological and sociological aspects, divorce, family finance, and parenthood, to spiritual concepts of marriage. When the young men in the class were asked to give their ideas of the qualifications for a wife, the first four requisites were health, moral character, mental ability, and willingness to rear a family. "Good cook" was number 16 on the list, beauty was 18, and "dress" was 21.

Marriage Statistics of Oberlin Alumnæ. A study of data from women graduates of Oberlin College, reported by Louis D. Hartson in *The Journal of Heredity* for May, indicates that the marriage rate among them is about 60 per cent, a figure similar to those from Smith, Vassar, and Wellesley. A curve is plotted to show the change in the rate for classes graduated from Oberlin from 1888 to 1926.

Women in Industry. The "platform of American industry for 1928," adopted on May 14 by the platform committee of the National Association of Manufacturers, included this paragraph: "In the light of present conditions and considering woman's economic needs, we recommend that protective legislation should be based only upon individual capacity and the nature of the work rather than upon sex. We recommend further scientific study of the entire subject before legislation be considered."

French Maternity and Child Welfare Legislation. A brief summary of recent French legislation concerning maternity and child welfare by Marcelle Kraemer-Bach, published in the *Revue Internationale de l'Enfant*, shows that since 1913 the French

law has made the suspension of work for eight weeks before and after childbirth compulsory, without risk of loss, and with a daily grant to the mother. Since 1917 rooms for nursing mothers in factories have been required, and family grants for every child under thirteen, begun in 1913, have since been increased and extended. Broader provision is also made for illegitimate children, juvenile courts, simplification of adoption, free and compulsory education, and some regulation of child labor.

The Romance of Cookery. This is the title of a popular talk given by Dean Charles H. LaWall, Philadelphia College of Pharmacy and Science and printed in the *American Journal of Pharmacy* for March, 1928. Dr. LaWall, who is also the author of "Four Thousand Years of Pharmacy," has brought together many amusing and significant bits of lore from biblical times to the present, with interesting quotations and quaint pictures, and the paper should make exceptionally good reference reading in the history of foods and food customs.

Dresses for the Little Girl. The textile and clothing division of the Bureau of Home Economics, United States Department of Agriculture, has added a leaflet of this title to its list of attractively illustrated ones on clothing for children. The present one, number 26, is by Maude Campbell and gives reliable, sensible, suggestions for simple dresses that are attractive, comfortable, easy to make, and easy to launder. Copies may be obtained on request to the United States Department of Agriculture, Washington, D. C.

Radio Talks on Wearing Apparel. The text of seven radio talks on the manufacture, utility, selection, and care of wearing apparel which were recently broadcast by industrial fellows of the Mellon Institute from the University of Pittsburgh studio of Station KDKA have been printed by the University as Radio Publication No. 37, a 60-page booklet which is sold for fifty cents. Subjects considered are: Cotton fabrics, undergarments, wool clothing, silk garments, rayon goods, and furs.

Seasons in Reading. How the circulation of its books varies from month to month is shown in a chart prepared bythe Hamline Branch of the St. Paul Public Library and printed in the *Wilson Bulletin* for May. Peaks come in March, October, and November, with the lowest point in the late summer.

Foot Position. Study of the foot position of 1030 women leads John W. Crist to the general conclusion, stated in the *Journal of Heredity* for May, that as compared with primitive women, typical foot position of women today has flattened, ceased to turn inward at the toe, and in many cases tends to turn outward. The greater prevalence of the outward turning in older women is considered the result of greater weight rather than of age alone.

International Health. Dr. Richard C. Cabot describes the health work of the League of Nations in a pamphlet recently published for the educational committee of the League of Nations Non-Partisan Association by the Margaret C. Peabody Fund. Though prepared primarily for public health officials, it gives a generally interesting summary of the work in epidemic control, mutual education of nations in ways of promoting health, control of opium production and traffic, anti-malaria campaigns, and standardization of drugs, sera, and similar products. The address of the Association is 6 East 39th Street, New York City.

NEWS NOTES

GENERAL

American Red Cross. The next convention will be held at Washington, April 22 to 25, 1929. This represents a change from an autumn to a spring date and leaves 1928 without a gathering of delegates.

American Society of Agricultural Engineers. Electricity in the farm house was the subject of a round table at the annual meeting, held in Washington June 19 to 22. E. A. White presided and the speakers were Mrs. John D. Sherman, Miss Eloise Davison, E. C. Easter, H. J. Gallagher, and Dr. Louise Stanley. Other aspects of rural electrification were discussed at other sessions; also rural sanitation and extension methods in agriculture.

American Social Hygiene Association. The fall regional conference on social hygiene will be held at Louisville, Kentucky, October 11 to 13, and home economists in the neighborhood are invited to attend. Headquarters of the Association are at 370 Seventh Avenue, New York City.

American Honey Institute. Bee-supply manufacturers and honey packers have formed the Bee Industries Association of America, and one of the first acts of the new organization has been the establishment of an institute "to give publicity to honey in a very large way." The sum of $5,000 has been provided for the first year's work and Dr. H. E. Barnard is to be its director, combining this work with that of director of the Royal Baking Powder Company. Headquarters are at 410 Chamber of Commerce Building, Indianapolis.

Bureau of Dairy Industry. Professor Ollie E. Reed, of the Michigan State College of Agriculture, has been appointed chief of the Bureau of Dairy Industry, United States Department of Agriculture, and takes up his duties about September 1. The position has been vacant since Dr. C. W. Larson resigned early in 1928 to become director of the National Dairy Council.

International Kindergarten Union. The thirty-fifth annual convention, held at Grand Rapids, Michigan, April 16 to 19, gave new evidence of the broadening conception of opportunities and responsibilities seen in every field of education. The international interests of the association were emphasized at one session at which a principal address was "The world movement in education and the new attitude toward the child" by Elizabeth Rotten of Germany. In addition to matters specifically related to kindergarten instruction, nursery schools and parental education were discussed, a sight-saving demonstration was given, and Louis A. Pechstein, University of Cincinnati, speaking on "The streets of the city" made one of the most notable addresses of the convention.

Western Arts Association. At the annual meeting in Indianapolis, May 2 to 6, an exhibit to represent the United States at the International Art Congress at Prague was selected from the many exhibits of art schools and colleges. Among the speakers at the general session was Joanna Hansen of Iowa State College. Julia R. Grady of the Vocational school at Madison, Wisconsin, presided at the home economics round table.

International Fellowships. To promote its campaign for funds for international fellowships the American Association of University Women has arranged with Emma H. Gunther, who will be on sabbatical leave from Teachers College, Columbia University, to devote the first half of the next college year to speaking to branches of the Association and to colleges in the northwestern, western, and southwestern sections of the United States.

Educational Research. Dr. W. W. Charters, professor of Education in the University

of Chicago, has resigned that position to become director of the Bureau of Educational Research of Ohio State University. He succeeds Dr. B. R. Buckingham, who is to hold a position with Messrs. Ginn and Company, Boston publishers, and a lectureship in the Graduate School of Education, Harvard University.

NEBRASKA

Nebraska State Home Economics Association. At the April meeting in Lincoln, Florence Corbin, Lincoln, was elected president, and Eudora Day, Lincoln, secretary. At the evening banquet Mary Foster Frederick described her work in conducting homemaking classes for married women; Hazel Mead, a senior in the university, told of conducting a boys class in home problems at Teachers College High School; and Gladys Winegar spoke of recent developments in the field of textiles.

Beulah I. Coon, head of the division of home economics education, University of Chicago, formerly in the same position at the University of Nebraska, spoke on "Development of character in home economics education" at the morning meeting; Dr. Greta Gray discussed "Some problems of household buying"; and Professor Rebekah Gibbons had for her subject, "Foods, fads, and fake advertisement; are we duped by them?"

University of Nebraska. At the annual Farmers Fair, held on the College of Agriculture campus May 5, the home economics department featured exhibits and demonstrations showing contrasts between the old and the new in clothing, textiles, house furnishings, foods and nutrition, child development, equipment, and design. An unusual feature of the Fair this year was the pageant, "The Master of Miracles," written by a senior home economics student, Maxine Churchill, and put on by the students.

Harriet E. Towne, director of the Child Welfare Bureau of Lincoln Public Schools, twice each year sends a group of 9A students to the home economics department of the University to investigate vocations in which they have expressed an interest. They are encouraged to realize early the importance of determining aptitudes for desired vocations and to measure all values connected with their choice. A tour is made through the home economics department and talks are given by faculty and many questions asked and answered.

Extension Service. Plans for Mothers Vacation Camps this year include five camps for about three days each, between June 12 and August 17. Homemakers who are executives of home demonstration projects and study clubs, and those who have been at camps before are invited to attend. Supervised recreation, rest, and study fill every day's program.

Three hundred and fifteen 4-H Club boys and girls and 27 leaders were guests of the Agricultural College, Lincoln, May 28 to June 2, for the thirteenth annual 4-H Club Week. Many others attended a part of the time. The 4-H club members were guests of Omaha for one day and 603 boys and girls attended the dinner served them by the Commercial Club. Each morning was devoted to classes, a convocation period, and play periods; the afternoons were spent in tours of Lincoln and the University, and the evenings at banquets and entertainments.

The first rural recreation training meeting held May 31 and June 1 at the State Fair Grounds, was attended by over 100 leaders from eleven counties including representatives from home demonstration project groups and Parent Teacher Associations, county agents, county superintendents, and state extension workers.

NEVADA

Vocational Home Economics Cookbook. The vocational home economics classes of Nevada have compiled and published in a 134-page pamphlet tested recipes covering the whole field of cookery. The compilation was made by a committee of ten with the cooperation of Ruth A. Talbot, state supervisor of home economics education.

NEW ENGLAND

New England Home Economics Association. At the annual meeting held at Babson Park, Wellesley Hills, May 12, Mrs. Gladys Beckett Jones was elected president and Anna Kloss corresponding secretary.

Mrs. Chase Going Woodhouse of the United States Bureau of Home Economics spoke on "The economic and social problems of the family," tracing the changes that have taken place in family life and stressing the need for a real understanding of family relationships and of the relations of the family to the community. Buying was cited as the present-day economic problem of the family, which must be solved through cooperation of public and private agencies.

NEW HAMPSHIRE

New Hampshire Home Economics Association. At the annual meeting in Concord in October, the subject, "Advances in nutrition," will be discussed with Dr. Alice Blood of Simmons College as speaker.

Through the association bulletin, members are being urged to work for a state supervisor of home economics and to enlist the aid of all who are interested in education in the state.

Extension Service. A series of sixteen two-day coat schools, at which 106 spring coats were made, has just been completed. The cost of the materials averaged about twelve dollars, but the coats ready-made would have cost, on the average, thirty-five dollars. These schools, the first of their kind in the state, were a decided success.

A series of "Dress well demonstrations," designed to teach the principles of good dress in a concrete manner, has been conducted by the state leader in the 35 counties of the state. Materials were donated by New Hampshire manufacturers, the costumes planned and made by the home demonstration workers, and local women served as models.

A conference of boys and girls club leaders, held at the University the second week in April, under the direction of Mr. Wadleigh and Miss Sanborn, proved most helpful and inspiring.

Berlin. In February the Berlin Woman's Club program was in charge of the high school home economics department, which conducted a very successful Homemakers Day. The junior home economics class arranged a model kitchen on the stage of the auditorium, carrying out a green and white color scheme, to harmonize with the decoration of the auditorium. The kitchen was furnished with the most up-to-date equipment, lent by local dealers. A dialogue on dusting, washing dishes, and cleaning house was given by two of the girls while working in the model kitchen. In booths arranged about the hall, members of the Woman's Club gave instructions on lamp shades, home gardens, books for children, rugs, care of babies, unusual stitches in embroidery, budgets, supper dishes, cleaning hats and dresses, and paper flowers. Material furnished by Miss Lyford, president of the State Home Economics Association, was used in planning the program.

NEW JERSEY

New Jersey Home Economics Association. At the spring meeting, Ada Bessie Swann, Newark, was elected president, and Mildred Johnson, Girls Vocational School, Atlantic City, secretary.

Though the New Jersey association was the latest to organize, its rapid progress has necessitated the forming of two sections, the South Jersey Section and the North Jersey Section. Each section has its own officers and executive board, and holds three meetings a year.

Plans are being made for the fall meeting of the state association, which will be held in Atlantic City in conjunction with the New Jersey Teachers Association convention.

Moorestown. Of the national meat story contest awards made by the National Live Stock and Meat Board, first and sixth places in the eastern district of the United States were taken by Moorestown high school students. The stories, as a group, won the $50 award as being the best group submitted in the eastern district. This is the third consecutive year that a Moorestown high school student has won first place. Helen Raymond teaches home economics.

Helen Raymond, who is on leave of absence for part of the fall term, sailed on June 9 on a trip around the world. She expects to spend several weeks in Europe, Palestine, and Egypt before going to the Far East. Her plans include a motor trip through Java and time in China and Japan.

NEW YORK

New York Home Economics Association. *Central District.* The Central District has contributed its quota of $114 to the Ellen H. Richards fund.

Three unusually interesting meetings have been held during the year. At the mid-winter luncheon and meeting in Syracuse, Myrtle L. Johnston, Russell Sage College, Troy, and Claribel Nye, New York State College of Home Economics, Ithaca, spoke on "Family relations as a teaching problem" and "Family cooperation in the home management program."

The spring luncheon meeting, held May 12 in Syracuse, was well attended. Alice Edwards spoke on "The American Home Economics Association today," Florence Winchell of Albany State Normal College discussed "The place of the student club in home economics education," and Margaret Bacon of Rochester outlined "A savings program for professional women."

At a meeting of the Syracuse teachers, April 19, Ruth Atwater, who is now associated with the National Canners Association, told of the work that association is doing.

Better Homes Week was observed by the home economics teachers in various parts of the district. Miss Swift and Miss Wood, of Oswego High School, gave talks to groups interested in a model home; home economics pupils in many Syracuse schools, under the supervision of the teachers, cooperated with various merchants, and a number of interesting exhibits were shown in the store windows. Visitors were urged to inspect the new model apartment in the Continuation School. Grace Moran of Cornell University, addressed a large group of home economics teachers at the Syracuse Thrift Kitchen on "Beautifying the home."

Under the leadership of Margaret Hutchins, supervisor, recent meetings of the Syracuse home economics teachers have been devoted to discussions relative to incorporating in the present course of study more work on child care, home management, beautifying the home, and home nursing.

Eastern District. The annual meeting was held in Troy, May 24, with 34 present. Preceding the meeting, the members were entertained at School 18 with a delightful dinner, prepared and served by the home-making department, through the courtesy of Gertrude Arbogast, supervisor of home-making in the public schools of Troy. Informal reports on the meeting of the state association in New York City, April 9, were given. Frances Patterson of Russell Sage College, the newly elected state chairman of student clubs, made the report for student clubs in the absence of Eleanor Kellow of Skidmore, state chairman of this committee for the past year. Florence Winchell reported on the child clinic held in Albany in which the New York State College of Agriculture at Cornell cooperated. Gertrude Arbogast, Troy, was elected president, and Mildred Stiles, Cohoes High School, secretary.

During April and May, child feeding classes were held in Schenectady, arranged by Mrs. R. S. Coulter, chairman of the preschool study group of the Elmer Avenue School, with the cooperation of all the preschool and child training groups. Demonstrations of a variety of foods for children were given in the home service department of the New York Power and Light Corporation by Jessie B. Lane, director, assisted by Mildred Graves, a teacher of homemaking in the Woodlawn Public School who received special training at the Merrill-Palmer School last year. There was an average attendance of forty at the meetings.

Florence E. Winchell, professor of home economics, New York State College for Teachers, sailed the latter part of June for England. She planned to visit Anna R. Keim, who is studying at the University of London, and later to join her sisters, Cora and Jessie Winchell.

Southern District. The Binghamton section has had a meeting every school month except November.

At the January meeting each person told about her own work. A waffle supper was served.

Mrs. Rose gave an interesting talk at the

March meeting. Invitations were sent to near-by teachers of homemaking, and members of the Cornell Club and Mothers Clubs, and a goodly number were present.

A report of the New York meeting was given at the April meeting by Helen Nelson.

At the May meeting, devoted to child training, the school nursery was open to the teachers and Mrs. Chamberlayne gave a talk on "Child training and care."

The Elmira Section held its first meeting March 28. Dr. John R. Tuttle, professor of philosophy and psychology and director of extension courses of Elmira College, gave a most interesting talk on the general topic of child training, which was followed by a very helpful discussion.

A luncheon was arranged for May with Marie Belle Fowler, director of the Nursery School at Cornell, as speaker.

A fund of $5000 has been granted to the home economics department of the Cortland Public School, to be used in furnishing three rooms and equipping a cafeteria to be ready for use this fall. With new equipment available, additional courses are to be added, with an additional teacher.

Western District. One of the outstanding features of the spring term in the Buffalo schools was the observance of Better Homes Week in all home economics classes. Through class work, exhibits, presenting sketches in the general school assemblies, and securing the cooperation of dealers in placing postors and Better Homes exhibits in their store windows, the teachers emphasized various phases of the subject. A "Better Homes House," built and furnished by the home economics classes of Hutchinson High School under the direction of Henrietta M. Langner, was open to the public and occasioned much favorable comment.

At Bennett High School, Buffalo, forty underweight pupils, realizing that they could not do their best unless they were physically fit, voluntarily joined a nutrition class which met once a week. Discussions were held, pupils weighed, and results recorded on charts. By carefully following the different health rules and having a mid-morning and mid-afternoon bottle of milk most of the members showed a considerable improvement in a ten-week period. The class proved very successful and created much interest among the other pupils of the school.

Parental Education and Home Economics. A conference on parental education through home economics in the public schools was held on April 26 in connection with the Parents' Expositions. The program, arranged by a committee of which the chairman was Professor Bess Cunningham of Teachers College, Columbia University, was noteworthy for the number of public school teachers and administrators who took part.

NORTH DAKOTA

North Dakota Agricultural College. The home economics contests which are a part of the annual inter-high-school May festival of the Agricultural College were held May 11 and 12, with a large increase in attendance—37 schools represented, and an enrollment of 104 students in the eight contests. Over 600 articles were sent for the exhibit of high school work.

Eulalie Church and Edna Sommerfeld, clothing specialists in the extension work, attended the clothing conference for the north central states at Urbana, May 22 to 25.

Frances Bailey, who has charge of teacher training, received the master of arts degree from the University of Chicago in June.

During the summer, Constance Leeby will begin the first unit of a research problem dealing with household cleaning brushes, brooms, and dustless mops.

A recent edition of *The Spectrum*, the college paper, was published by the home economics department, with descriptive articles from the various divisions and reports by students and graduates, and sent to each high school girl graduating in the state this year.

University of North Dakota. Eva Sophia Schairer, state councillor, and Jessie Scott are offering work during the summer session.

Hazel M. Hauck has been granted a leave of absence for the first semester, 1928–29, and will begin work as a dietitian interne at Presbyterian Hospital, New York City, on

July 1. Helen M. Stary, who is a graduate of the University of North Dakota, has been appointed instructor for the first semester to fill Miss Hauck's place.

OHIO

Ohio University. Marian Morse, who received her master's degree at Teachers College, Columbia University, during the past year, will return for the opening of the college year in September. Pauline Dickinson of Wisconsin, who has filled the vacancy during Miss Morse's absence, plans to return to the University of Wisconsin for further study.

An interesting piece of graduate work has been the study made by Prudence Stevens on "The cost of a baby," based on a study of one hundred babies in the city of Columbus.

A spacious and well-equipped practice house facing the campus and close to the home economics building, will take the place of the practice apartment next year.

Prudence Stevens and Ida Patterson represented the University at the Des Moines meeting.

University of Cincinnati. A May Day luncheon was given at the School of Household Administration, for high school seniors who had indicated an interest in home economics. An opportunity was afforded for vocational guidance conferences with the staff, where the girls could discuss the qualifications, training, advantages, limitations, probable salary, and chances for advancement offered by each of the professions for which the school gives training. An attractive mimeographed folder containing this information was given to each girl.

The annual project with the mothers' pension department of the Juvenile Court, was carried out during the last semester under the supervision of Eleanor Maclay, department of nutrition. Sixteen families were selected for the study. The mothers and children came to the University once a week for eight weeks. Five students did the case work with the mothers, visiting them weekly, and taught the mothers classes at the meetings. A food class planned, prepared, and served a supper to the entire group—families and workers—about one hundred persons. Three nutrition classes for children and a nursery group were cared for by other students in the nutrition and child care and training departments. The types of experience afforded by this project have proved very valuable to the students and had given them a keener insight into the physical, social, economic, and psychological phases of family problems.

The Cincinnati Exchange Club, with the cooperation of the department of child care and training, has provided funds for supplying the preschool children of six orphanages and six day nurseries with play materials. Afton Smith supervised the selection and installation of the equipment and sent out students to demonstrate its proper use. A supervisor appointed by the department and financed by the Exchange Club will direct the work of the students next year in connection with these twelve institutions.

Women's Wear Daily recently contained the following item: "Before offering a collection of silk dresses to the public at $5.75, the Smith Kasson Company, made use of the facilities of the School of Household Administration of the University of Cincinnati and had the dresses tested for fading, thread count, and tensile strength. Following the tests, the dresses were displayed in two of the store's windows, with cards explaining the tests, showing photos of the machines used, and stating that 'the results enable us to assure you splendid service and fast colors'."

The dresses were of crepes combined with voiles and Shantungs, of which 75 per cent was silk and 25 per cent rayon "to intensify the color value," and each dress was washed five times in one of five popular laundry soaps, and given a light exposure equal to three months of summer sunlight.

In 1927–28 and 1928–29 two fellows have been assigned to the University of Cincinnati by the Laura Spelman Rockefeller Memorial. They work under the direction of the department of child care and training, last year specializing in child development, and this year in parental education.

Western Reserve University. A home economics vocational conference attended by assistant principals, vocational advisors,

high school girls interested in home economics, and their mothers, was held May 19. After talks by speakers representing a variety of professions, tea was served and an opportunity given for informal discussion.

On Friday, April 13, the senior girls in household administration entertained the Household Administration Club of Graduates, serving a buffet supper. Members of the staff outlined briefly some of the newer phases of work, and Miss Colley and Mrs. Jordan presented an attractive display of work in color and clothing.

On May 11 the Undergraduate and Graduate Clubs had their annual dinner. Helen Deering, representing the Near East College Association, spoke on "A romantic adventure in college education."

Victoria Kloss of the household administration department who received a master's degree in English at the June Commencement, has recently been selected to introduce home economics into Hiram College.

Cleveland. The annual meeting of the Cleveland Home Economics Association was held May 21, with Charles H. Lake, first assistant superintendent of schools, as the speaker of the afternoon. Tea was served to about seventy-five members.

OKLAHOMA

Central State Teachers College. The largest enrollment in the history of the school was reported this summer. The child care courses have the largest enrollment; 352 students have taken these courses during the year.

Oklahoma Agricultural and Mechanical college. Nutrition for rural schools, a course introduced last yeat by the College, was offered during the summer term also. The purpose is to give rural school teachers an understanding of health needs of the community and of children, a knowledge of nutrition and of methods of approach in leading their pupils to better ways of living. Some teachers have enrolled in this work in order to better fit themselves to cooperate with the program of the local home demonstration agent.

The seventh annual conference of home economics teachers was held at the College, June 7 to 9. Dean Margaret M. Justin, Kansas State Agricultural College, was the leading speaker at the conference, giving an address and conducting a round table on home management problems. Others assisting at the conference were Kate S. North, state supervisor of home economics education, Mrs. Eileen M. Harrison, director of mothercraft classes, Tulsa, and Mr. E. B. Nelms, state supervisor of vocational agriculture education.

In the summer session, the School of Home Economics again offered two courses in parental education—methods in parental education and methods in home management—designed for persons interested in training for teachers of mothercraft classes. Mrs. Eileen M. Harrison was in charge and conducted demonstration parents classes for those registered in the methods classes.

University of Oklahoma. Helen B. Burton, director of home economics, is studying at the University of Chicago during the summer session; Vera I. Moore is travelling in Europe; Laura A. Miller is at Teachers College. Katherine Lissne, Kittie D. Washington, and Stella Munger are on the University staff for the summer session.

Harding Junior High School. At a special assembly on May 24 student club pins were given as honor awards to members of the Catering Club, for excellence in club activity and in class work.

OREGON

Parental Conference. The first parental conference under the auspices of the School of Home Economics at the State College at Corvallis, was successfully held on May 19. A gratifying number of parents from many sections of the state attended the all-day session. The program, which included talks on the physical and mental needs of children, was felt by the parents who attended the conference to meet their needs admirably, and it is planned to hold such a conference every year.

PENNSYLVANIA

Irving College, Mechanisburg. In a costume review staged by the students in

the home economics department, living models displayed historical costumes of different periods, beginning with Egyptian and closing with a comparison of 1928 and 1876 styles. The constumes of 1876 period were borrowed from the attics of friends and acquaintances; those of the present day were made by the students. The review closed with an act in a millinery shop. The hats of the 1876 period were especially appreciated. At the end, the entire group came on the stage and sang an appropriate parody, "There's a long, long trail of petticoats."

RHODE ISLAND

Rhode Island Home Economics Association. The annual spring luncheon meeting was held May 5 in Providence with Augustus F. Rose, director of manual arts in the Providence schools, as the speaker.

At the annual meeting, June 2, at the State College, Kingston, Dr. Marion A. Gleason, director of child welfare division, Rhode Island State Board of Health, spoke on "Good health is true economy."

Home Economics in Public Schools. Rhode Island has opened seven new high schools the past year, all of which have home economics departments. Two towns, which previously had no work of this kind, have opened home economics departments.

At their own request, a group of boys were permitted to register for work in foods in the East Providence High School.

SOUTH CAROLINA

South Carolina Home Economics Association. The annual meeting, held at Columbia May 4 and 5, opened with a dinner session attended by about forty. Toasts were given by representatives of the various phases of home economics work, and Nell Whaley of the South Carolina Tuberculosis Association spoke on "Child health and education."

The sessions next day were presided over by Frances Williams, acting president since Meta De Loach, president, moved to New Jersey. Greetings to the association were extended by the State Federation of Women's Clubs, the State Parent Teacher Association, and the State Council of Farm Women. Stella Steele of Winthrop College was elected president and Jane Ketchen of Winthrop College, secretary-treasurer. It was decided to hold the annual meetings in the fall instead of the spring.

The address of the day was delivered by Dr. G. Croft Williams, professor of sociology, University of South Carolina, who spoke on "Readjustments in the home." Mary E. Frayser, in charge of Purnell work, told of home economics research in South Carolina. Mrs. Harriet T. Johnson reported on the home economics loan fund, and $33 was contributed to the Ellen H. Richards fund. The goal of membership for the following year was set at 100.

TEXAS

University of Texas. The University has been fortunate in securing Belle Northrup, of the fine arts faculty, Teachers College, Columbia, to give the costume design unit in an advanced design course this summer. The interior decoration unit will be given by Sibyl Browne, a graduate of Columbia and formerly on the faculty at Peabody College.

The home economics department is happy to announce that beginning this summer it will offer graduate work counting toward a degree of master of science in home economics, based on the degree of bachelor of science in home economics. The University will also offer, beginning next fall, a major in institutional management for the bachelor of science degree in home economics. The home economics department is particularly well equipped to give this training, as the University Commons and two women's dormitories, where students will observe and do their practice work, are under the direction of the department, and are managed by excellently trained women in this field.

Two new members, each four months old, have been added to the University Nursery School group. In the morning they are given their baths by the home economics students under the direction of Nell Freund, the nursery school nurse, and they spend the remainder of the morning in the attractive and well equipped nursery, returning to their mothers in the afternoon. One is a bottle baby and her food is made up by the home

economics students each morning, under a doctor's direction.

State Department of Education. The ninth annual girls' clothing contest was conducted in San Antonio, April 26 to 28, with about six hundred representatives from all parts of Texas present. Faculty members from the University of Texas, The College of Industrial Arts, the Southwest Texas Teachers College, the North Texas Teachers College, and the Texas Technological College, and teachers of home economics from the field served as judges.

The annual event is an important educational project in Texas, second only to the state conference in its contribution to teachers in service. The contest itself furnishes only a small part of the educational value of the trip; the inspiration to the girls extending far beyond the realm of clothes, can scarcely be measured. The idea back of the contest is that clothes may aid the wearer in expressing her true self and that they are not of sufficient importance to demand the attention often given them.

Ivol Spafford, of the Federal Board for Vocational Education, was in Texas March 19 to 24, visiting El Paso, San Antonio, New Braunfels, San Marcos, the Southwest Texas Teachers College, the University of Texas, and the state department of education.

VERMONT

Vermont Home Economics Association. At the spring meeting in Burlington, held in connection with the March teachers conference, Miss Blanchard of the Everyday Book Shop gave an interesting and suggestive talk on children's books.

Six sectional home economics meetings have been held in various parts of the state, with a speaker at each meeting, followed by round table discussion. An attempt has been made to stimulate interest in student clubs.

University of Vermont. The fifteenth annual conference of the extension department was held February 7 to 10. Dr. C. B. Smith, Gertrude L. Warren, United States Department of Agriculture, and Mrs. Catherine A. Griebel, of the New Jersey extension service, were among the many who contributed to the success of the conference. The talks and demonstrations on refinishing and upholstering of furniture were most helpful to those who are working in the flood districts of Vermont.

Alice Blundell, assistant professor of home economics, has received her master's degree at Columbia University, where she has been studying the past semester.

The annual clothing contest for home economics students in the junior and senior high schools was held at the University on June 2. The number of schools represented was larger and the quality of the work better than at any previous contest.

State Course of Study. Miss Fairbanks and Miss Haines, with suggestions from teachers throughout the state, have prepared a revised state course of study in home economics to be ready for use in September, which is more comprehensive, more complete, and, it is believed, better suited to the needs of Vermont than the one now in use.

State Survey. A general survey of home economics work in the state shows that 66 of the junior-senior and senior high schools offer home economics courses, with 3166 girls enrolled. Six schools offer one-year vocational home courses and one of the six conducts a full-time vocational homemaking program. One general home economics course has been introduced at Proctor, and a one-year vocational course at Fairfax. New laboratories and equipment have been provided in two schools and minor improvements made in many others.

WASHINGTON

State College of Washington, Pullman. The new home economics building is a source of much pride and satisfaction to the home economics department.

Another new feature on the campus this fall will be a nursery school. Margaret Walker, a graduate of Ohio State University who has been studying at the Merrill-Palmer School for the past year, will be in charge.

Mrs. Eva Smalley Williams has been granted leave for a year's study at the Merrill-Palmer School.

University of Washington. Blanche Payne spoke at the home economics section of the Inland Empire Teachers Association in April on "Modern adaptations from peasant costume," and showed her private collection of examples of peasant arts from central Europe.

At the Seattle meeting of the Pacific Arts Association in April, Grace G. Denny spoke on "The Italian rennaisance as expressed in textiles." Lantern slides and examples of Italian textile arts were shown.

WEST VIRGINIA

West Virginia University. On May 3 a group of twenty juniors and seniors, with Eva Mae Davis, assistant professor of foods and nutrition, and Beth M. Palmer, assistant professor of applied arts, went to Pittsburgh for a two days professional trip. They visited the educational work of Joseph Horne's, one of the large department stores, and were entertained at luncheon by that store, and also by the Heinz factory. They visited the William Penn Hotel kitchen and spent an interesting half day at the Museum of Carnegie Institute.

The Home Economics Club raised two-thirds of the amount necessary to send a student delegate to the meetings at Des Moines, by serving cafeteria luncheons during Farmers Week.

The Home Management House has its first baby this year, a three-months old boy who was sent by the State Board of Children's Guardians. "Jack" is a most satisfactory addition to the Home Management House and has not kept any of his "mothers" up one night since he came.

Glenville State Normal School. The home economics department helped score the homes in the community scoring here. The score went higher than the average community in respect to the work in the homes being done by the girls, because they carry out definite projects rather than act as helpers. The heaviest loss in the score was due to the fact that the girls spend too much for clothes. Special emphasis will be placed on budgeting another year.

WISCONSIN

University of Wisconsin. The active and alumnæ members of Phi Upsilon Omicron have made available three $50 scholarships for 4-H Club girls entering as freshmen in the home economics department who are planning wholly or partially to work their way through school. It is felt that the freshman year, as a period of adjustment to new work and environment, is a time when financial help may be most appreciated. The money for one of the scholarships, given by the active chapter, was won as a prize from the Spun Silk Research Committee, New York City, for obtaining 400 questionnaires from women living in different parts of the country.

Stout Institute. The department of parental education is conducting two parents groups in the community, one made up largely of the mothers of the nursery school children, and the other a parent-teacher group in one of the public schools. The plan for the program of these meetings grows out of the needs of the group, the members having the privilege of suggesting topics they would like to have discussed. From six to twelve discussions will be planned for each group with a three-year program in mind. The program for this year in both groups is centered around the preschool child. The meetings are conducted on the lecture-discussion plan under a professional leader. Members are furnished a discussion sheet on the subject and a list of references which they may read. No reading is required. At the close of the regular discussion pertinent questions on immediate problems are brought up by the group.

WYOMING

University of Wyoming. A home management cottage was opened by the home economics department at the beginning of the spring quarter with a housewarming to which the home economics club and faculty were invited. Each brought a small gift for the house and spent a delightful evening. Senior girls majoring in home economics will

hereafter be required to have six weeks of residence in the cottage.

Students of home economics made the annual foods trip to Denver, May 2 to 5. Under the guidance of Elizabeth McKittrick, visits were made to the Armour Packing Company, the Morey Mercantile Wholesale Grocery, the Merchant Biscuit Factory, Brecht's Candy Factory, the Windsor Dairy, and the public market.

Edith Grundmeier, a home economist conducting research under the Purnell Act, is spending a month or more in the well equipped research laboratories at Kansas State Agricultural College testing Wyoming flours at an altitude lower than that of Wyoming.

Extension Service. Five camps for rural women will be held this summer under the supervision of the extension department. This is the fourth year for the summer camps and a larger attendance is expected than ever before. Handicraft work and food and nutrition study will be given, in addition to the recreational program.

Miss Birdseye, of the United States Department of Agriculture, spent a week in Wyoming this spring giving lessons on child health and growth at Sheridan and Cody.

The western regional conference of extension workers was held at Laramie, July 9 to 14.

September Addresses!

Because many addresses are changing early in September, the September issue of the Journal will not be mailed until September 10.

If you wish your Journal mailed to a new address, please send word, at least two weeks in advance, to 101 East 20th Street, Baltimore, Md. If you wish your postmaster to hold the September number for delivery on your return or to deliver it in your absence, please give him full instructions.

CHILD DEVELOPMENT AND PARENTAL EDUCATION

A Survey of Schools and Colleges

By

ANNA E. RICHARDSON

and

MABEL L. MILLER

This bulletin reports a survey of courses in child development and parental education offered as a part of home economics instruction in schools and colleges and by extension agencies in the forty-eight states, Alaska, Hawaii, and Porto Rico. Special sections deal with day and part-time schools, adult courses, college-residence, and college-extension work, with one on needs expressed by workers in the field and suggestions for meeting them.

Of value to teachers, extension workers, and administrators responsible for progressive programs.

Pages 125 *50 cents a copy*

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101 East 20th St., Baltimore, Md.

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